XES-C1

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

Model Name Using Similar Mechanism	CDX-A20
Optical Device Name	KSM-132A

SPECIFICATIONS

System — Compact disc digital audio system

Laser diode properties
- Material: GaAlAs
- Wavelength: 780 nm
- Emission duration: Continuous
- Laser output power: Less than 44.6 μW*

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

Frequency response — 5 - 20,000 Hz $^{+0}_{-0.5}$ dB

Signal-to-noise ratio — 105 dB

Harmonic distortion — 0.003%

Wow and flutter — Below measurable limit

Outputs
- UNILINK control (8P) output
- Digital audio output
- Analog audio output

General

Current drain — 1 A (during CD playback)
800 mA (during disc loading or eject)

Operating temperature — −10°C to 55°C (14°F to 131°F)

Mounting dimensions — Approx. 320 × 112 × 240 mm (w/h/d) ($12\frac{5}{8} \times 4\frac{1}{2} \times 9\frac{1}{2}$ in.) not incl. projecting parts and controls

Weight — Approx. 4.1 kg (9 lb.)

Supplied accessories
- UNILINK cable (8P) (1)
- RCA pin cord (1)
- Disc magazine (1)
- Mounting hardware (1 set)

Optional accessories
- Compact disc single adaptor CSA-8
- Cleaning cloth XP-CD1
- Disc magazine XA-10B

Design and specifications subject to change without notice.

MICROFILM

COMPACT DISC PLAYER

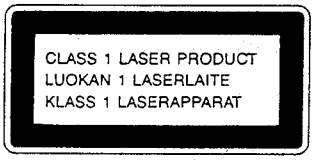
SONY®

Features

- Optical digital transmission reduces noise.
- Mobil CD changer automatically changes the discs in the disc magazine and enables you to play the desired selections of 10 discs.
- Angle selector allows you to install the unit vertically or horizontally, or even in a slanting location.
- Dust-proof design for heavy-dust use.
- BSL (Brush and Slot Less) moter spins the compact disc stably.
- Anti-vibration structure reduces the vibration of the disc compartment.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.



This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

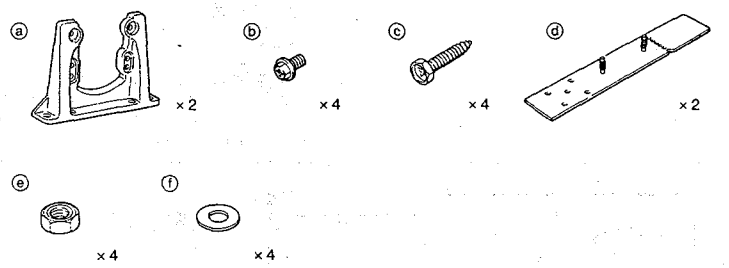
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Installation

Precautions

- Choose the mounting location carefully, observing the following:
  - — The fuel tank should not be damaged by the tapping screws.
  - — There should be no wire harnesses nor pipelines under the place where you are going to install the unit.
  - — The spare tire, tools or other equipment in/under the trunk should not be interfered with nor damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.

Parts List

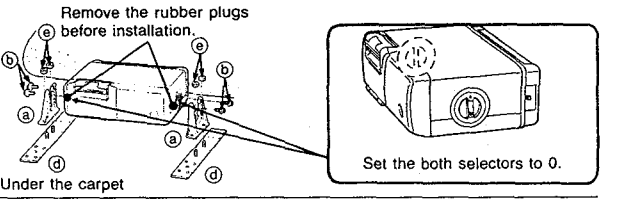


Installation

How to Install the Unit

To install the unit horizontally

1



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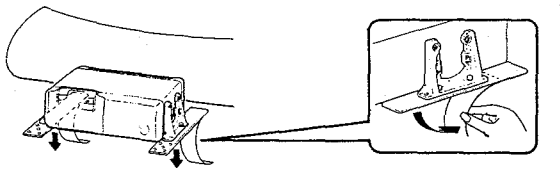

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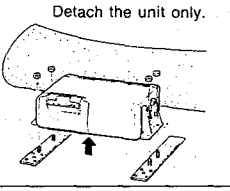

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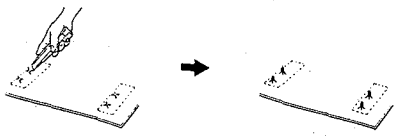

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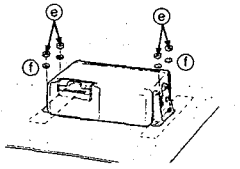
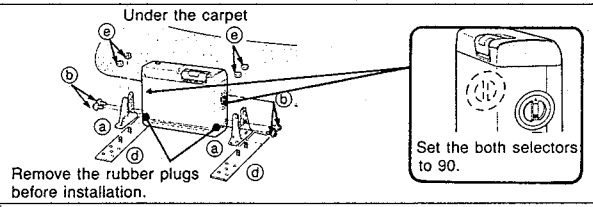


To install the unit vertically

1



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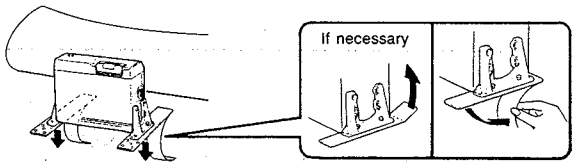

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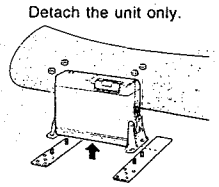

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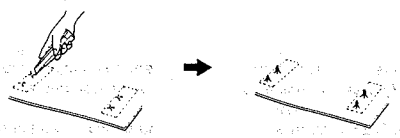

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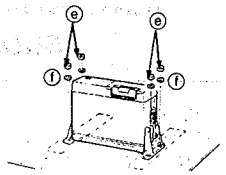
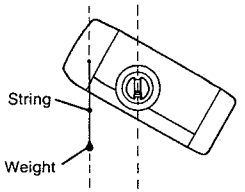


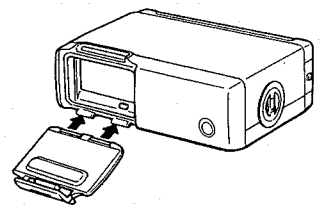
Installation

To install the unit in a slanting location
Hang a string with a weight from the unit, then set the angle selector so that the string and the selector is in parellel.



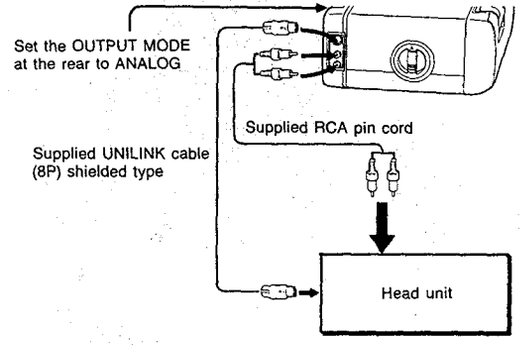
Notes
- Be sure to set the both selectors to the same number position.
- After changing the position of the selectors, make sure that the levers on the selectors are locked.

If the door is detached
The door is designed to be detached when an accidental operation or excessive force is applied. In such a case, attach it as illustrated below.



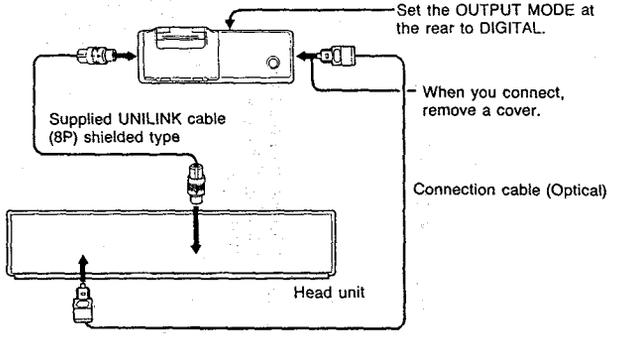
Connections

Connecting with Sony Car Stereo with the Function to Control the CD Changer (Analog to analog connecting)



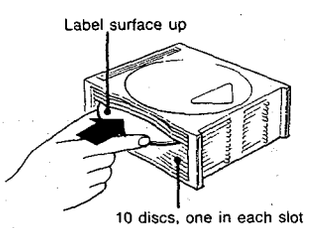
NOTE: You can only connect XES-C1 to the Sony car stereo, if the car stereo has the UNILINK control function.

Digital to Digital Connecting

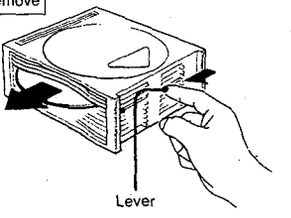

Set the OUTPUT MODE at the rear to DIGITAL.
When you connect, remove a cover.
Supplied UNILINK cable (8P) shielded type
Connection cable (Optical)
Head unit

How to Set the Disc Magazine

1

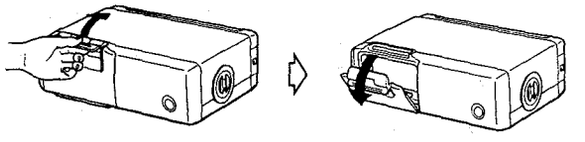


To remove



Be sure to set the disc magazine after completing installation and connections.

2



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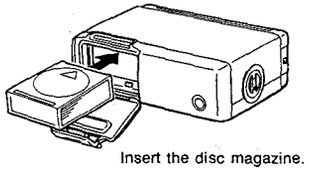
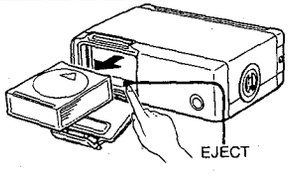
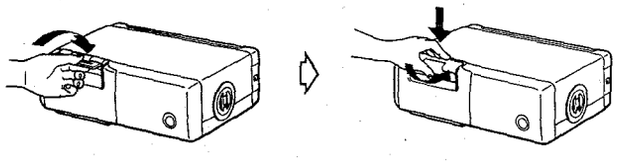


To eject the magazine



4



Use the unit with the door closed
Otherwise, foreign object may enter the unit, and contaminate the lens in the player.

While playing discs
The OPERATION on the front panel lights up. While changing discs, the OPERATION on the front panel blinks.

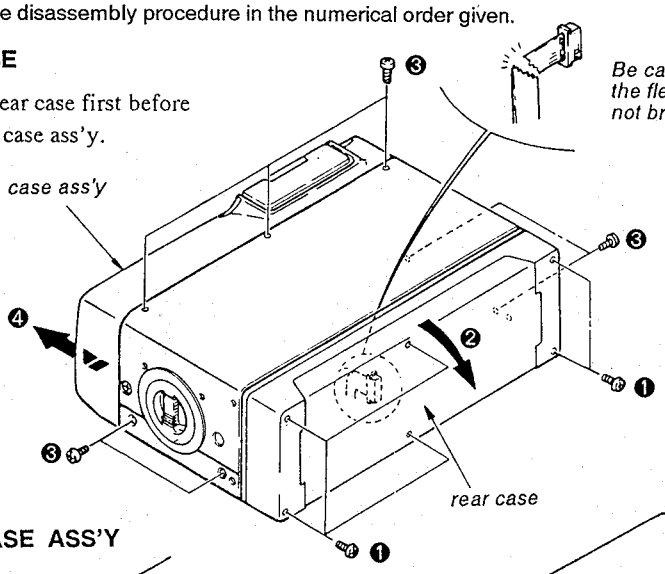
Note
To play an 8 cm (3-inch) CD, use the Sony CSA-8 adaptor (optional). Playing an 8 cm (3-inch) CD without the adaptor may damage the unit.

SECTION 2
DISASSEMBLY

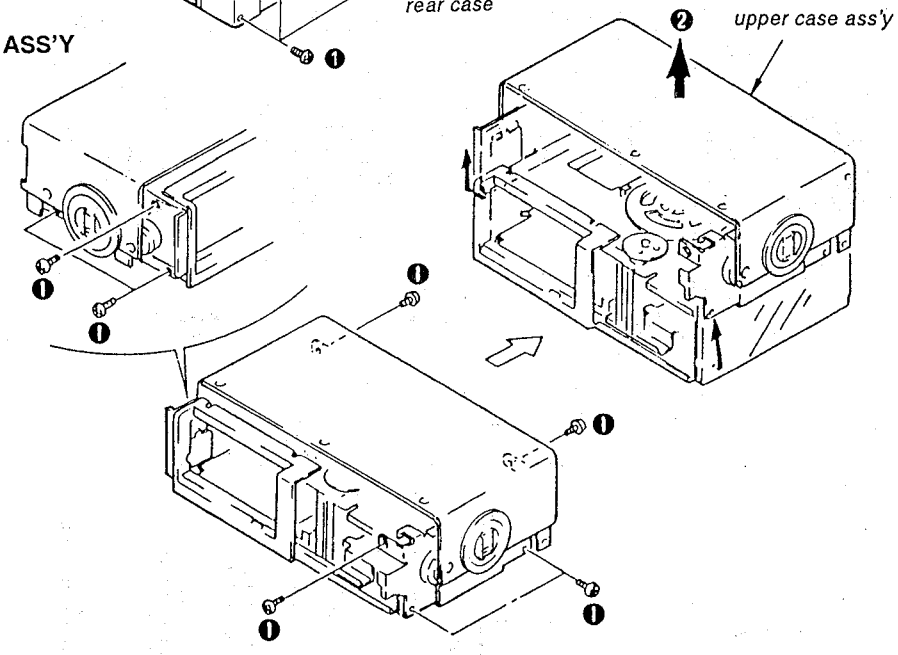
Note: Follow the disassembly procedure in the numerical order given.

REAR CASE

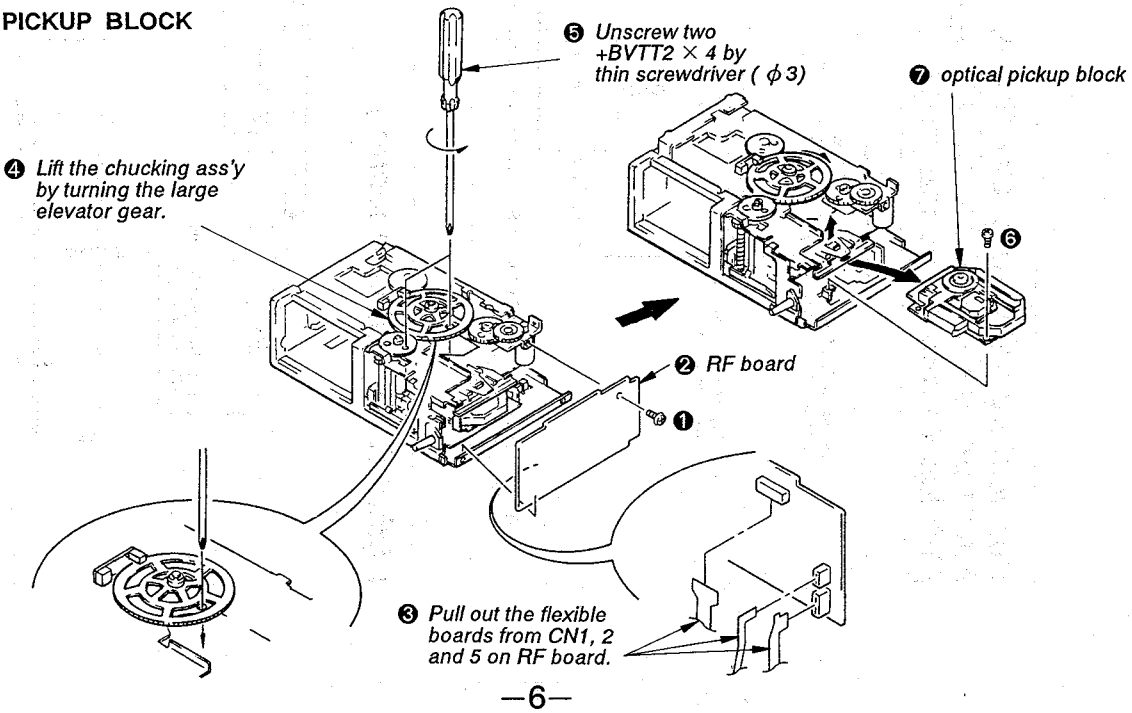
Remove the rear case first before removing the case ass'y.



UPPER CASE ASS'Y



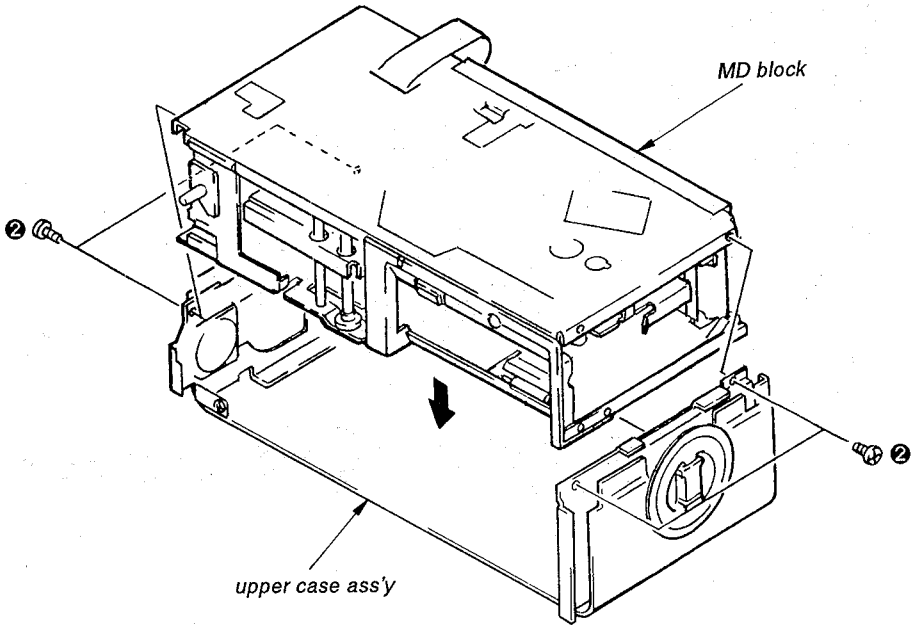
OPTICAL PICKUP BLOCK


❺ Unscrew two +BVTT2 × 4 by thin screwdriver (ϕ 3)
❼ optical pickup block
❹ Lift the chucking ass'y by turning the large elevator gear.
❷ RF board
❸ Pull out the flexible boards from CN1, 2 and 5 on RF board.

[NOTE ON ASSEMBLY]

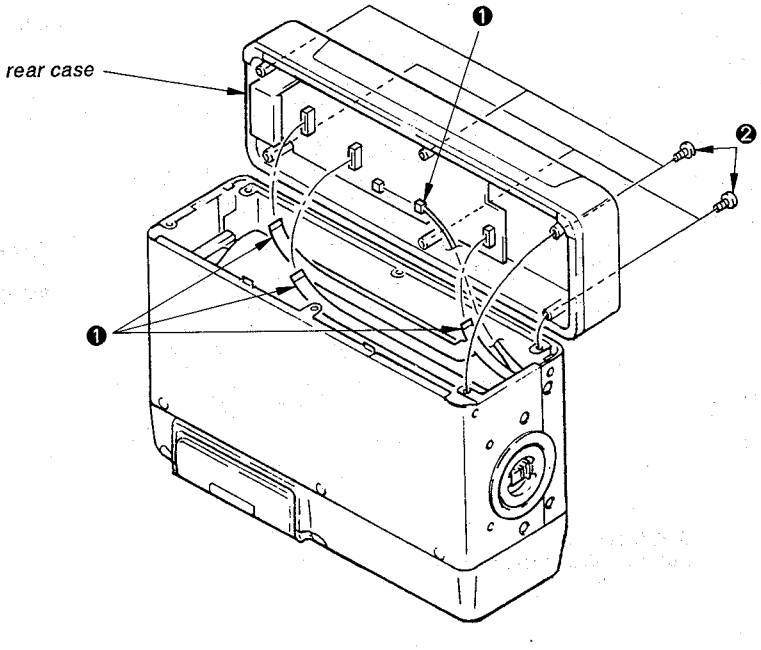
MD BLOCK

❶ *Set the upper case ass'y top side on the bottom.*



REAR CASE

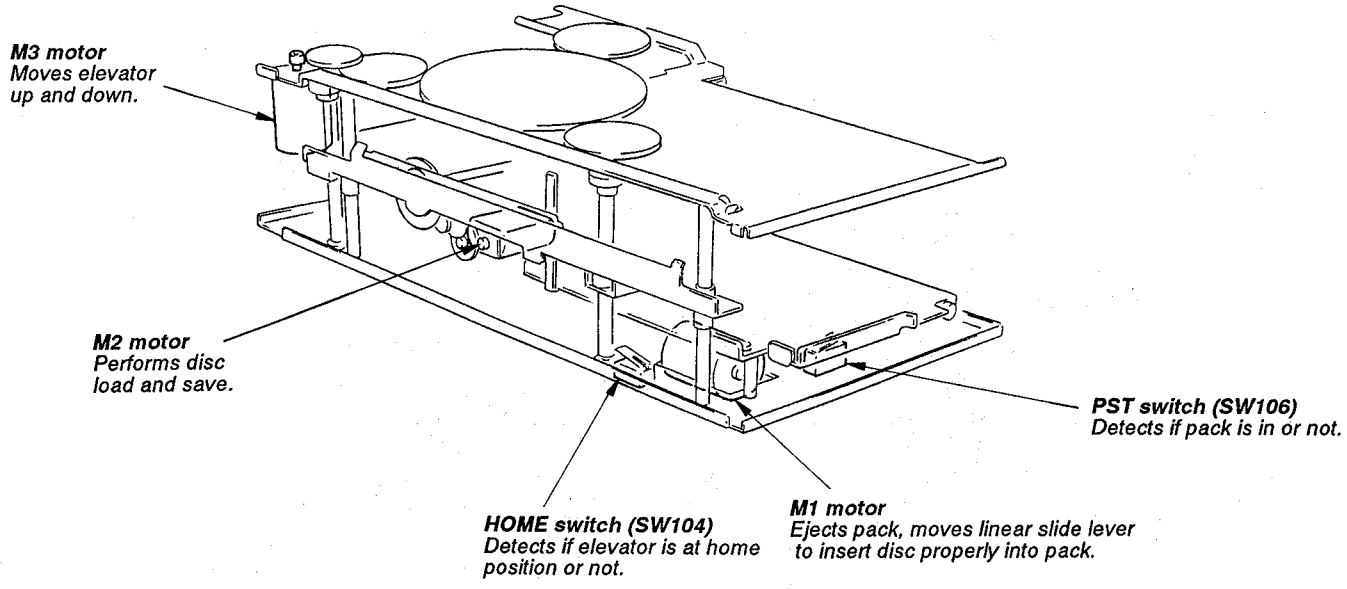
Assemble the rear case before assembling the front panel ass'y.



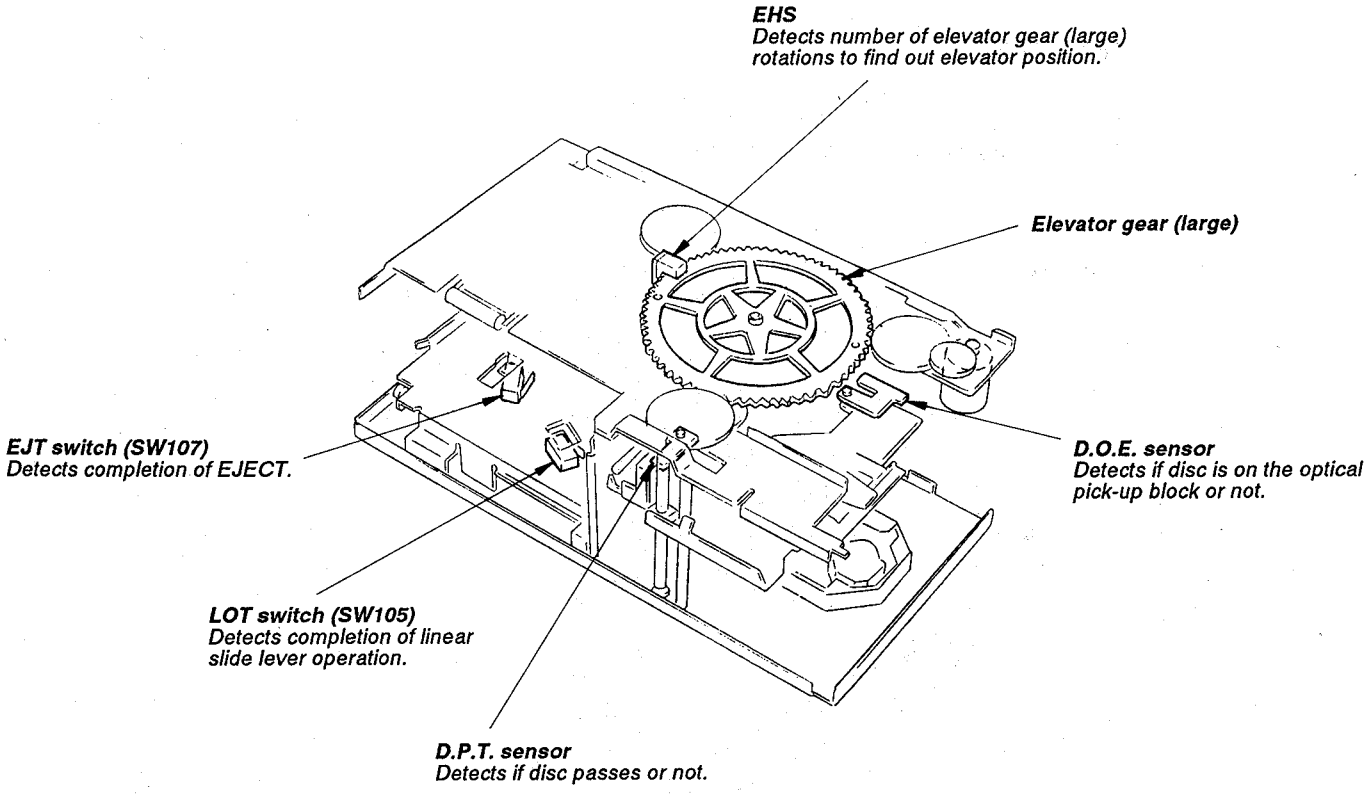
SECTION 3
CHANGER MECHANISM BLOCK DESCRIPTION

3-1. SWITCH AND SENSOR OPERATIONS

(1)

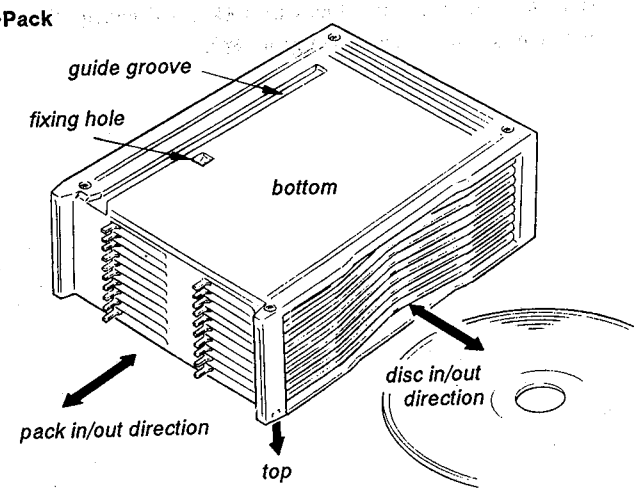

M3 motor
Moves elevator up and down.
M2 motor
Performs disc load and save.
PST switch (SW106)
Detects if pack is in or not.
HOME switch (SW104)
Detects if elevator is at home position or not.
M1 motor
Ejects pack, moves linear slide lever to insert disc properly into pack.

(2)

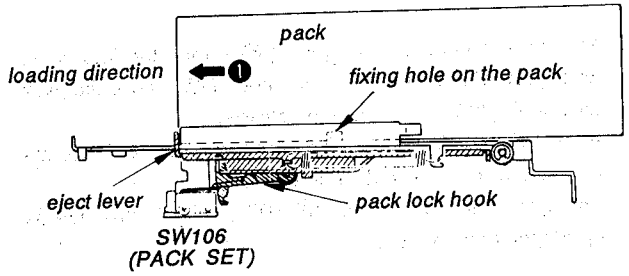

EHS
Detects number of elevator gear (large) rotations to find out elevator position.
Elevator gear (large)
EJT switch (SW107)
Detects completion of EJECT.
D.O.E. sensor
Detects if disc is on the optical pick-up block or not.
LOT switch (SW105)
Detects completion of linear slide lever operation.
D.P.T. sensor
Detects if disc passes or not.

[Pack Loading/Eject Operation]

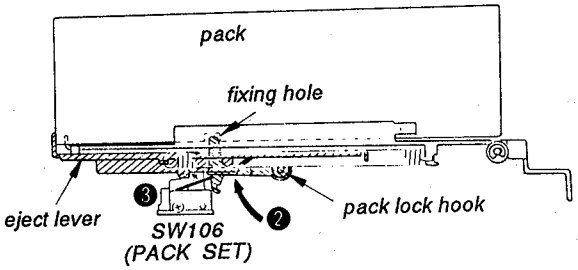
•Pack



•Loading

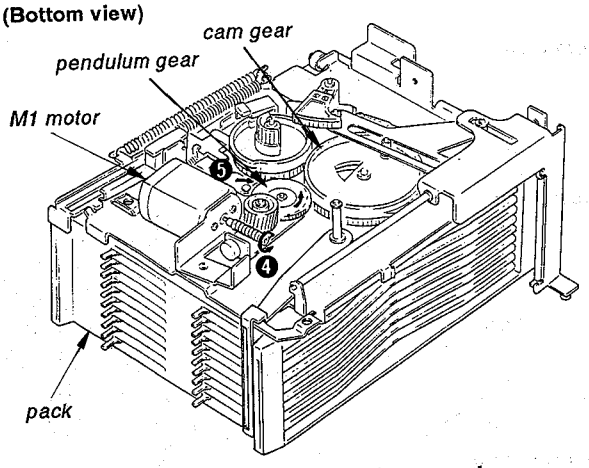


Insert the pack and press eject lever (❶).

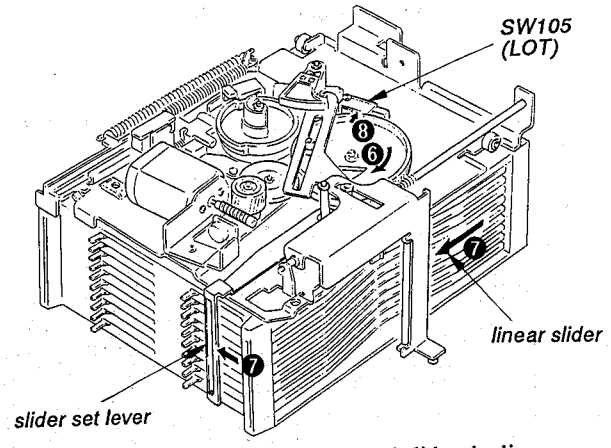


The hook fits into the fixing hole, and the pack is fixed. SW106 (PACK SET) goes off (❸), informs the completion of loading to the microcomputer.

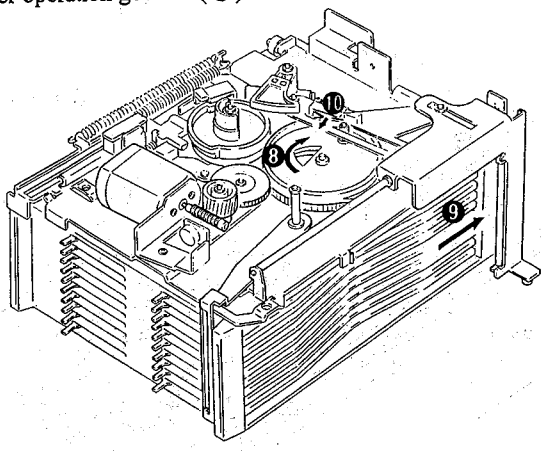
(Bottom view)



M1 motor rotates clockwise (❹), and engages the pendulum gear to the cam gear (❺).

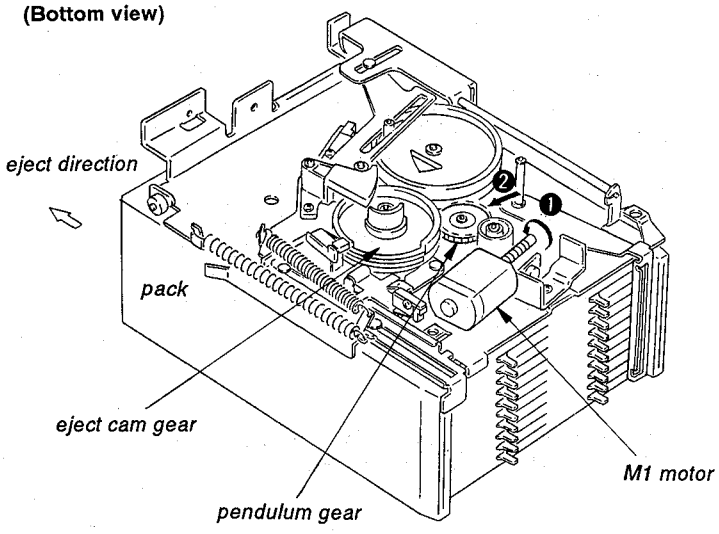


M1 motor rotates the cam gear (❻), and slides the linear slider, M2 motor drives the slider set lever through the slide lever (❼).
At this time, the linear slider presses a disc into the pack, and the slider set lever sets the light blue lever of the pack to the initial position.
The cam gear makes SW105 (LOT) that detects the linear slider operation goes on (❽).

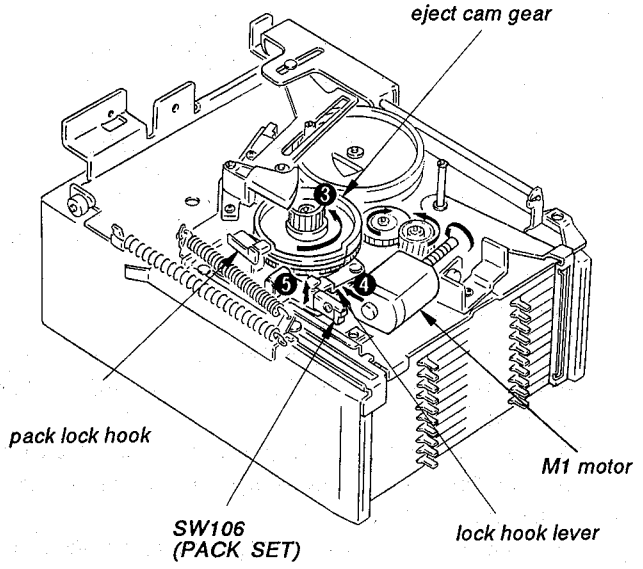


M1 motor rotates the cam gear once (❽), then the linear slider returns to the initial position (❾), SW105 (LOT) goes off (❿), detects completion of operation, and makes M1 motor stops.

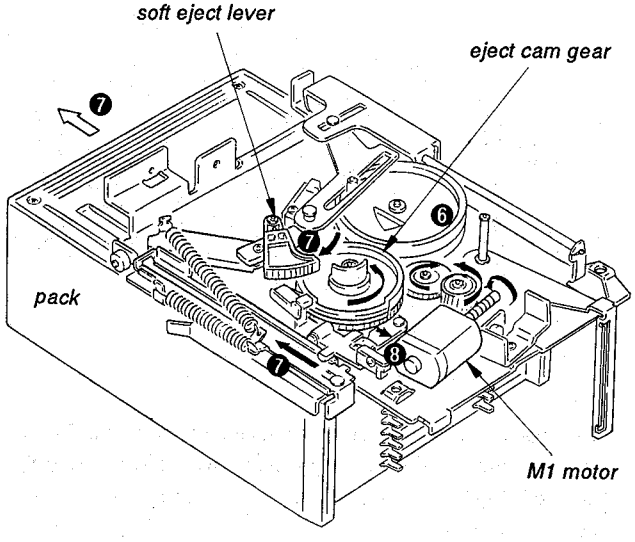
•Eject
(Bottom view)



M1 motor rotates counterclockwise (❶), and engage the pendulum gear to the eject cam gear (❷).



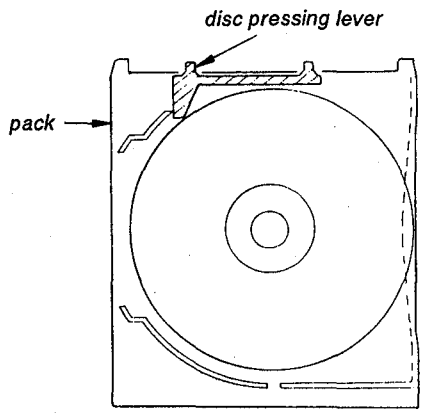
M1 motor rotates the cam gear (❸), then the lock hook lever gets in under the pack lock hook (❹), raise the pack lock hook (❺), and the lock is released.
At this time, SW106 (PACK SET) goes on, and informs the eject of the pack to the microcomputer.
The eject cam gear makes SW107 (EJECT) that detects eject operation goes on.



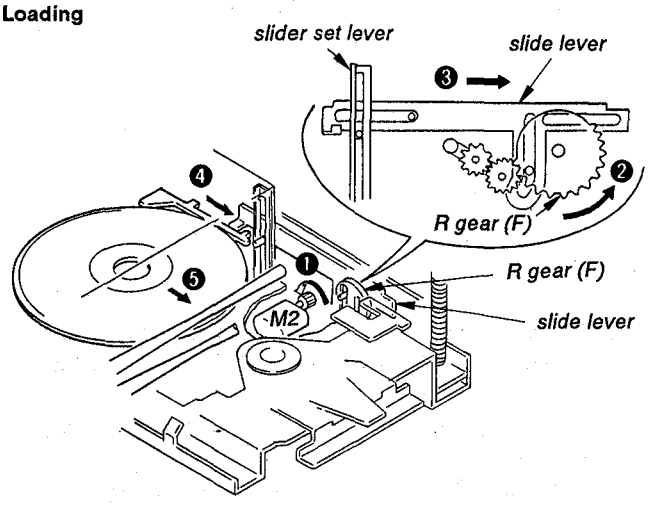
M1 motor rotates the eject cam gear (❻), drives the soft eject lever and the eject lever, then ejects the pack (❼).
The cam gear rotates once and returns the lock hook lever to the initial position (❽). SW107 (EJECT) goes off, detects the completion of eject, and makes M1 motor stops.

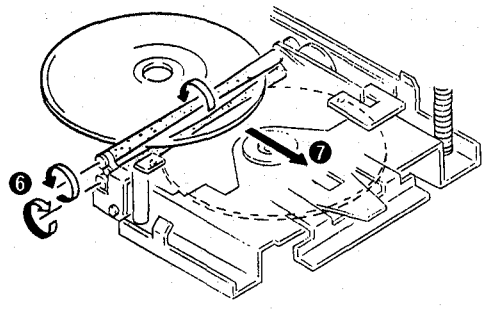
[Disc Loading and Saving]

•Pack



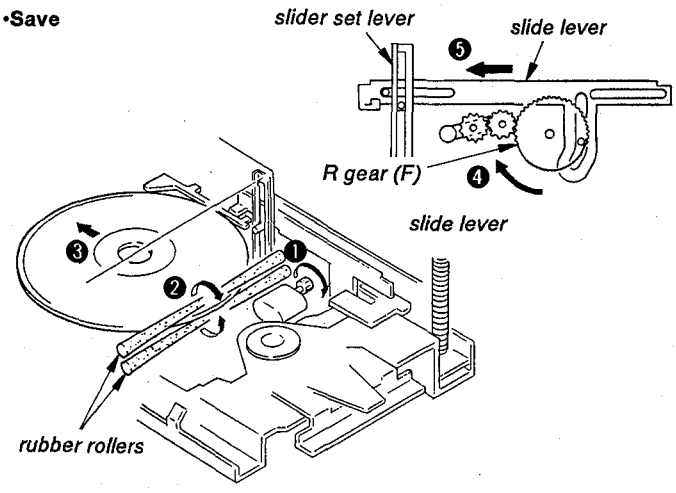
•Loading

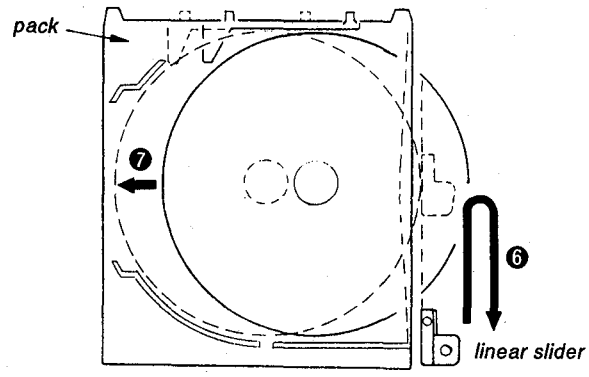




M2 motor rotates counterclockwise (❶) and rotates R gear (F) through some gears (❷).
R gear (F) moves the slide lever and the slider set lever (❸) and pulls the lever of the pack (❹), then the disc is pushed out (❺).
Also, M2 motor rotation (❶) rotates two rubber rollers at the same time through gears (❻), then its operation slides the disc upon the spindle motor (❼).

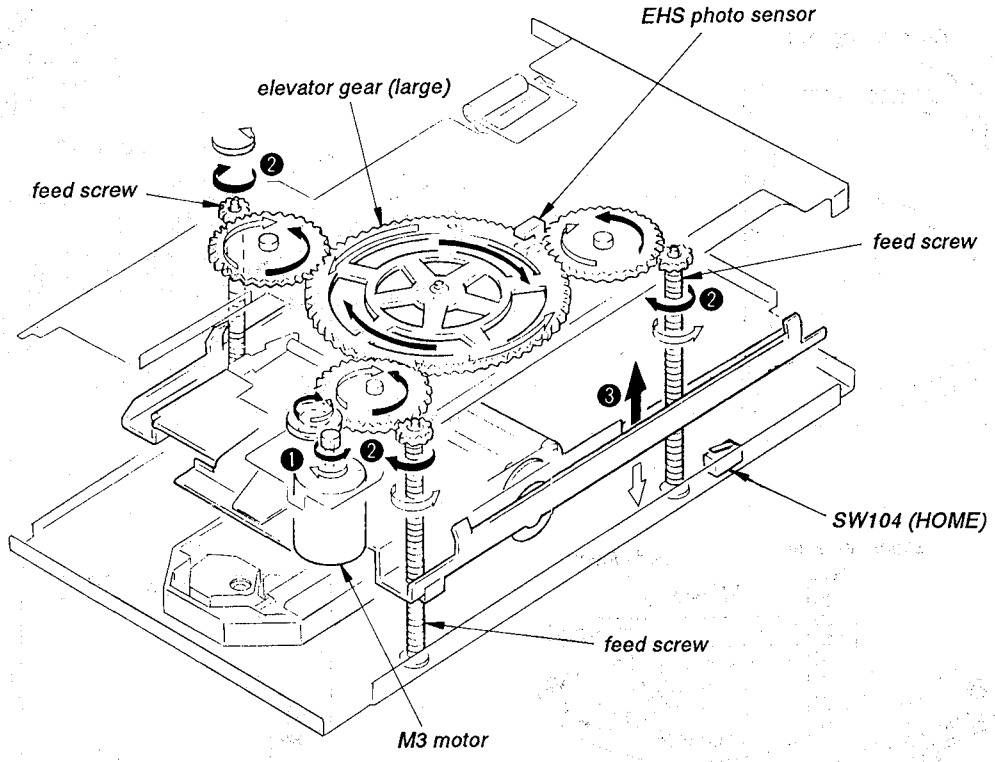
•Save

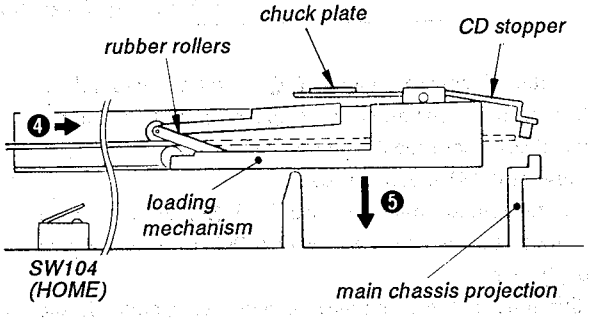


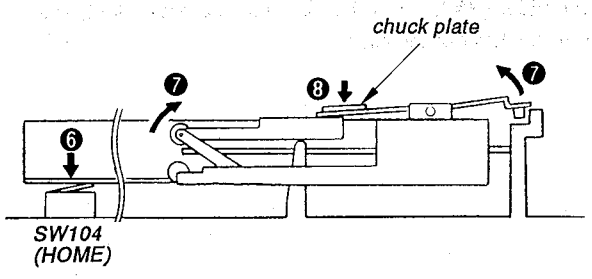


M2 motor clockwise rotation (❶), rotates two rubber rollers, then its operation saves the disc. But the rubber rollers doesn't save the disc completely.
Because of it, M1 motor is used.
M2 motor rotation rotates R gear (F) (❹) and moves the slide lever and the slider set lever (❺) at the same time through gears.
At this time, M1 motor rotates clockwise, operates in the same manner as the pack loading operation, moves the linear slider (❻), saves the disc into the pack (❼), and returns the lever of the pack.

【Elevator Up/Down】







Clockwise rotation of M3 motor (❶) is transmitted to the feed screws through gears (❷), and its force lifts the elevator section up (❸).
When the disc is loaded to the elevator section (❹), the elevator drops (❺).
When SW104 (HOME) goes on (❻), M3 motor stops and two rubber rollers and CD stopper leave from the disc (❼).
And when the magnet of the chuck plate is attracted to the turntable (❽), the disc is fixed on the turntable, then it is possible to play the disc.
EHS (Elevator Height Sense) photo senser detects two holes on the elevator gear (large), and informs the address of the disc pack to the microcomputer.
When the elevator gear (large) rotates half, the addreess chages once.

MEMO

SECTION 4
MECHANICAL ADJUSTMENTS

[LARGE ELEVATOR GEAR POSITION (LOCATION 10.5) ADJUSTMENT]

1. Move the middle elevator gear in the arrowed direction and place the top plate at the position where there are no clearances between the bottom face of the top edges of the three claws.

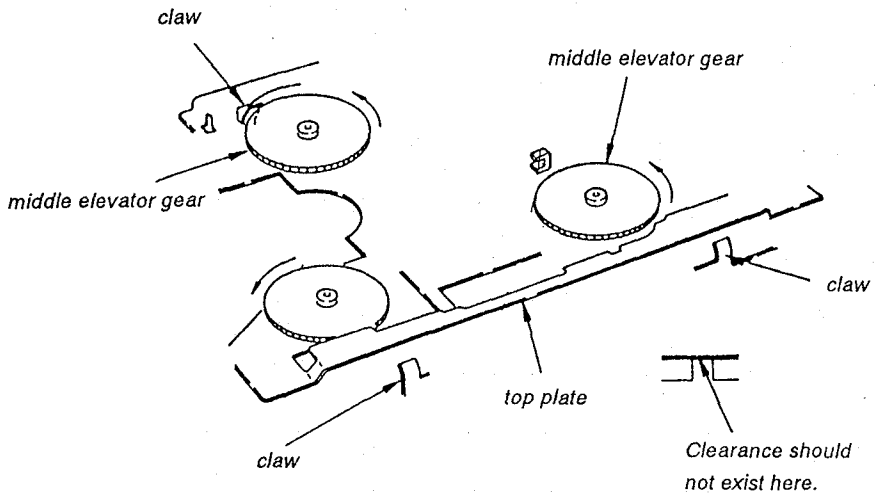
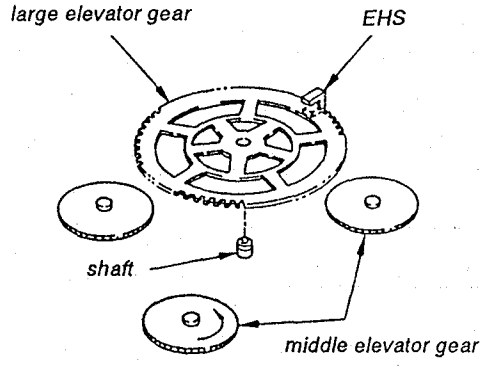
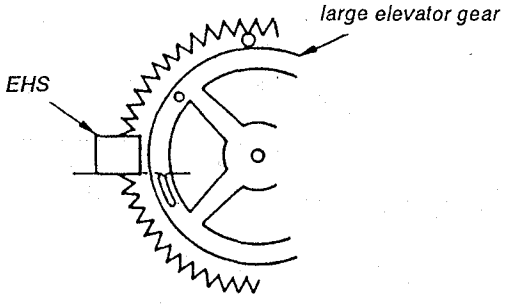


Fig. 1

2. Put the large elevator gear on the shaft of the top plate taking care not to move the middle elevator gears. The large elevator gear should be fastened by the top plate and EHS protrusion and should position in the relationship with the EHS as shown in Fig. 1.
3. After the placing, fix the large elevator gear with a retaining ring.





Edge of EHS protrusion and edge of protrusion on the large elevator gear should be alinged as shown.

Fig. 2

[HOMING ADJUSTMENT]

Note: 1. The mechanism section should be completely assembled.

2. Control the mechanism with the main unit XR-U880

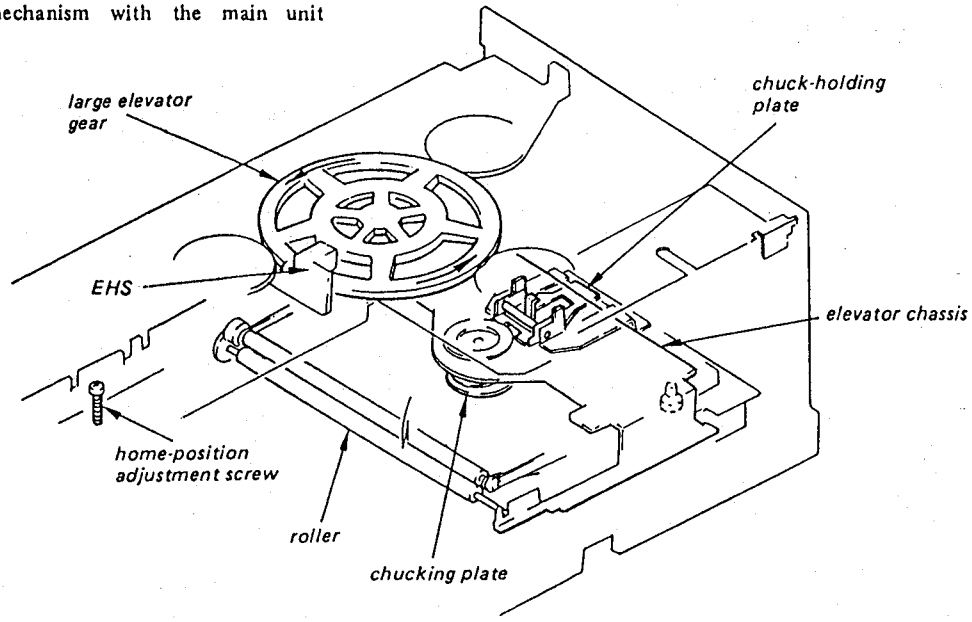


Fig. 3

1. Put the disk magazine containing several disks in the changer.
2. Initialize the changer.
3. Pull off the first disk.
4. Wait until the elevator lowers down to the home position.
5. Move the large elevator gear so that the clearance between the inner edge face of the chucking plate and edge of the top face of the stainless chuck-holding plate becomes in 1.5 mm (1/16 inches) as shown in Fig. 4.
6. Make a dot marking on the large elevator gear as shown in Fig. 5.
7. Re-put the first disk in the disk magazine.
8. Pull off the first disk again. The dot marking made in the step 6 above should position as shown in Fig. 5.
9. Fine adjust the position of the large elevator gear with the home-position adjustment screw shown in Fig. 3.

Adjustment Screw Position	Large Elevator Gear Position Displacement
One (1) turn in clockwise	15 (fifteen) degrees clockwise
One (1) turn in counterclockwise	15 (fifteen) degrees counterclockwise

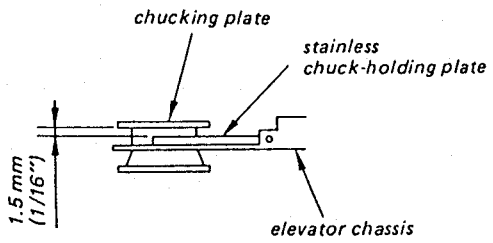
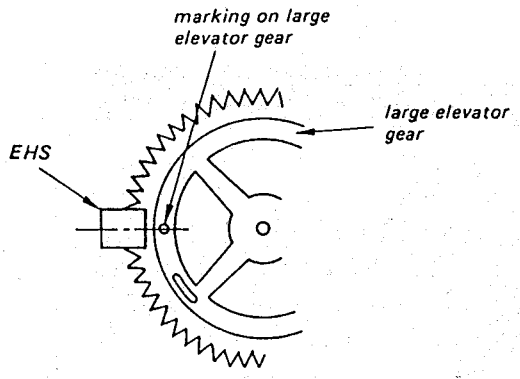


Fig. 4



Note:
Make a marking near and on the center line of the EHS sensor.

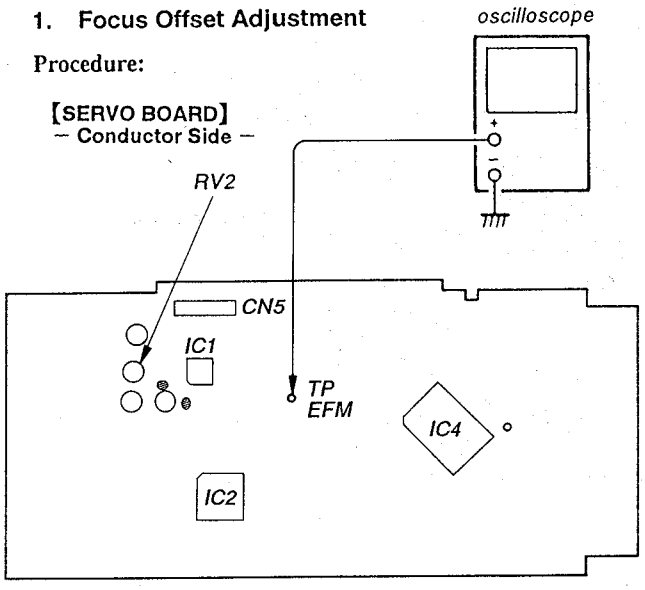
Fig. 5

SECTION 5
ELECTRICAL ADJUSTMENTS

1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.
3. Power supply voltage: DC14.4 V (more than 2A).

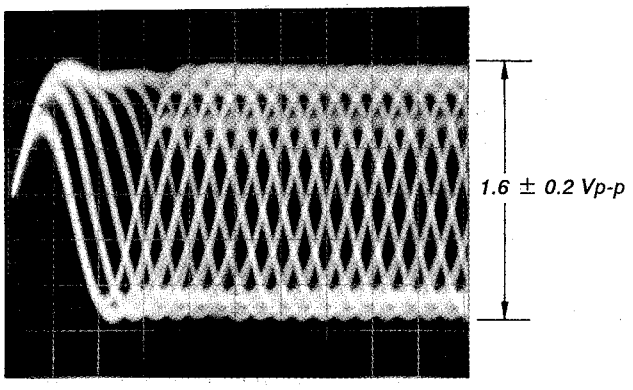
1. Focus Offset Adjustment

Procedure:



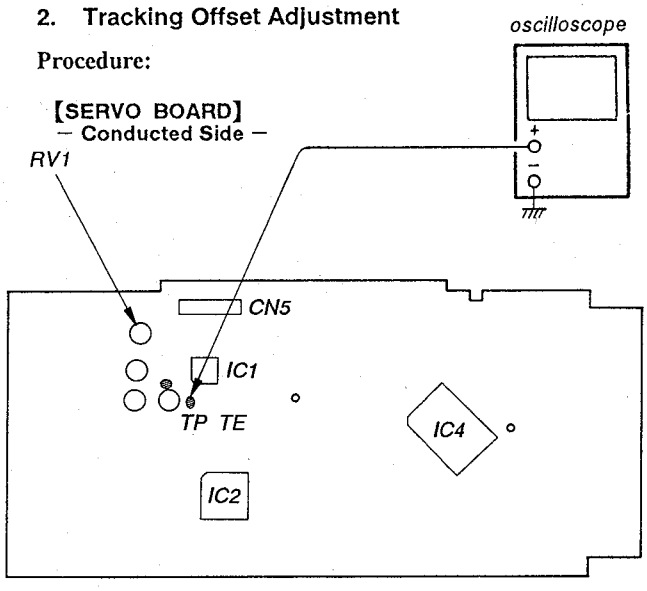
1. Connect the oscilloscope to SERVO board test point EFM.
2. Put the set into play mode by loading the disc.
3. Adjust (SERVO board) RV2 so that the oscilloscope. Waveform eye pattern is good.
   (A good eye pattern means that the diamond shape (◇) in the center of the oscilloscope can be clearly distinguished.)

Volt/Div: 200 mV
Time/Div: 0.5 μSec



2. Tracking Offset Adjustment

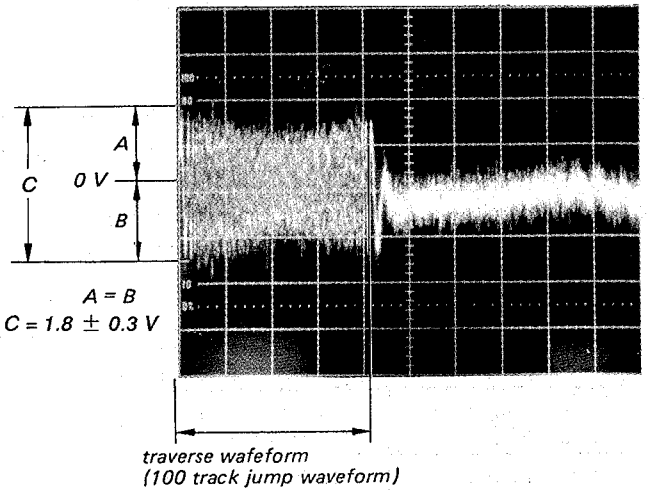
Procedure:



1. Connect the oscilloscope to SERVO board test point TE, pin ① of IC1.
2. Put the set into play mode by loading the disc.
3. Press the |◀◀ AMS ▶▶| button, then, check the traverse waveform*.
4. Adjust RV1 (SERVO board) so that oscilloscope reading is symmetrical in relation to 0 V.

   *Traverse waveform: This is the tracking error waveform appears when crossing the track.

Volt/Div: 0.5 V
Time Div: 2 mSec
Center 0 V



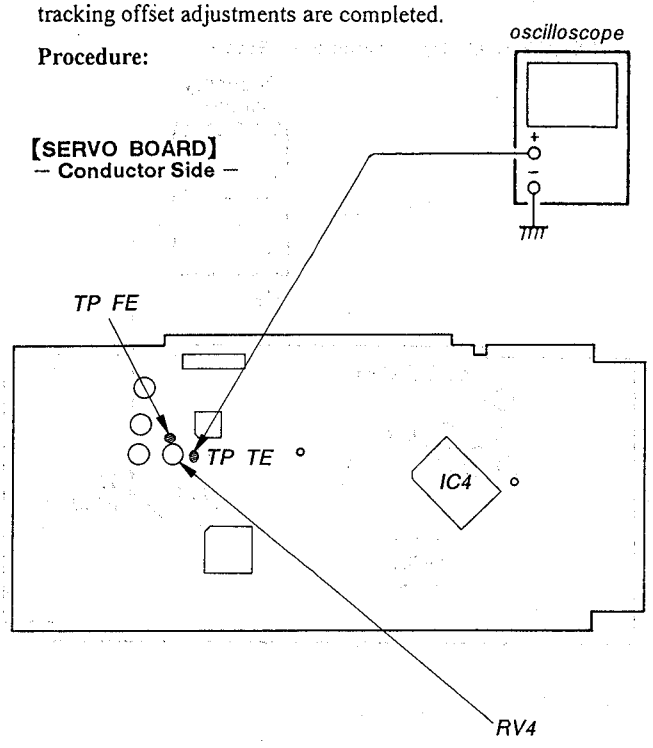
3. Tracking Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV4

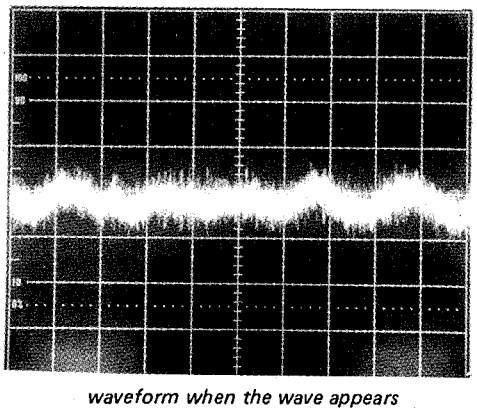
This adjustment should be performed after focus offset and tracking offset adjustments are completed.

Procedure:



1. Connect the oscilloscope to SERVO board test point TE.
2. Put the set into play mode by loading the disc.
3. Turn SERVO board RV4 from clockwise stop, then check the oscilloscope waveform.
   Fix RV4 at the position where the wavwaveform disappears.

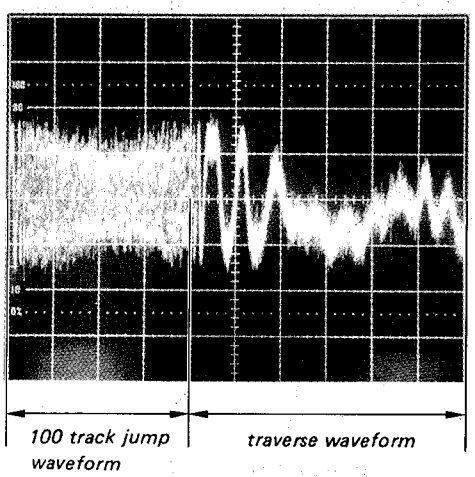
Volt/Div: 0.5 V
Time/Div: 2 mSec



waveform when the wave appears

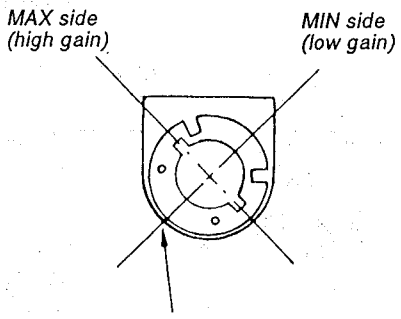
- **When gain lowered...**

When selecting by pressing ⏮ AMS ⏭ button, brake application is poor because of low tracking gain. Threfore, the traverse waveform appears after the 100 track jump waveform, then the selection will be located slowly.

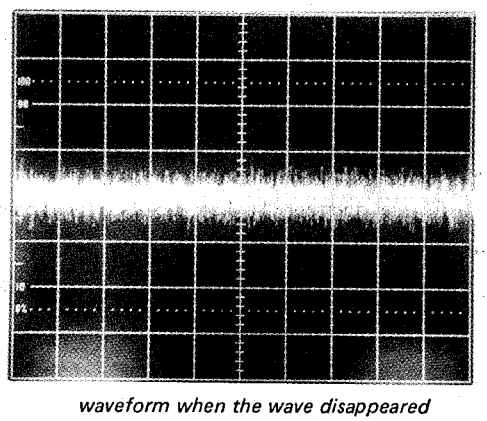


- **When gain is highered...**

Operation noise is heard due to a scratch or dust, then operation will be instability.



RV4 standard position



waveform when the wave disappeared

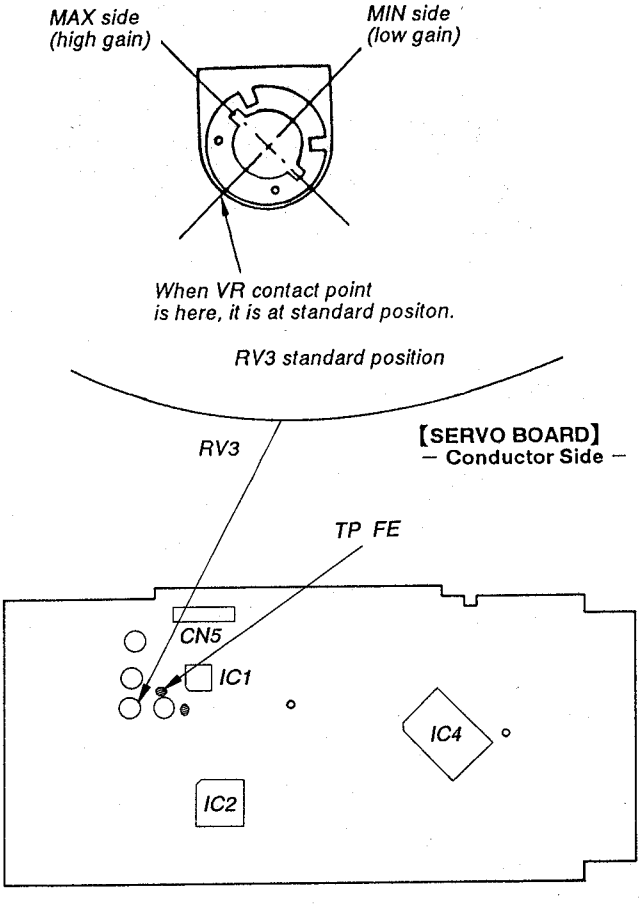
4. Focus Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV3

Procedure:

1. Set RV3 (SERVO board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV3 slightly clockwise.



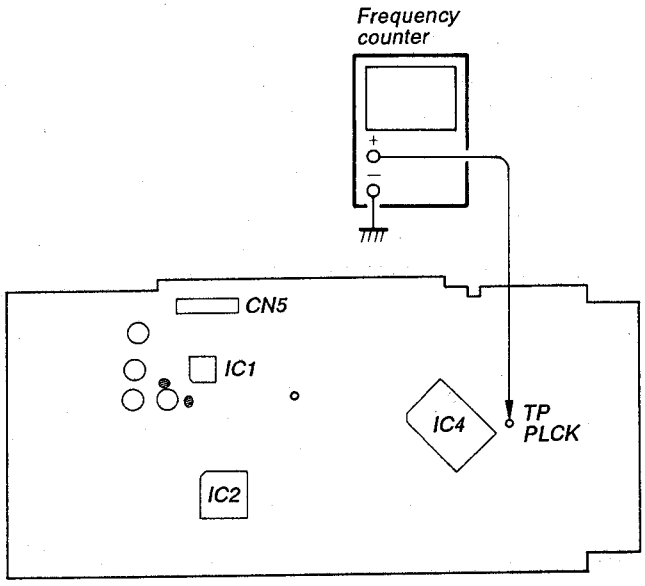
- **When gain is highered...**
  The set does not play because of no focus operation.
- **When gain is highered...**
  Operation noise is heard due to a scratch or a dust, then operation will be unstable.

5. PLL Freerun Frequency Check

Procedure:

1. Connect frequency counter to Pin ㊶ of IC4 (Test point PLCK).
2. Confirm the frequency is 4.3218 MHz ± 10kHz.

【SERVO BOARD】 – Conductor Side –



SECTION 6
DIAGRAMS

6-1. IC501 (μPD75116GF-E25-3BD) PORT FUNCTION DESCRIPTION

Pin No.	Port No. (Port Name)	I/O	Category (Active Condition)	Contents
1	PORT4.1 (LDON)	O	SERVO (EV-ON)	Laser ON/OFF
2	PART4.0 (RST.0)	O	SERVO (EV-ON)	Reset out to servo IC On ┐└┌ , reset IC
3	PORT5.3 (CDON)	O	SERVO (BU-ON)	Power supply to servo IC
4	PORT5.2 (Not used)	O	*Not used*	*Not used* → <OPEN>
5	PORT5.1 (OP. LED)	O	SYSTEM (BU-ON)	LED ON/OFF for operation indicator [HI-ON, LOW-OFF]
6	PORT5.0 (Not used)	O	*Not used*	*Not used* → <OPEN>
7	RESET	I	HARDWARE (BU-ON)	Hardware reset terminal On ┐└┌ , reset microcomputer
8	X2	–	HARDWARE (BU-ON)	Connected to 4.19 MHz crystal
9	X1	–	HARDWARE (BU-ON)	Connected to 4.19 MHz crystal
10	PORT6.3 (E2. CLK)	O	EEPROM (BU-ON)	Clock for EEPROM
11	PORT6.2 (E2. DATA)	I/O	EEPROM (BU-ON)	Data IN/OUT for EEPROM
12	PORT6.1 (Not used)	O	*Not used*	*Not used* → <GND>
13	PORT6.0 (ROM. C)	I	INITIAL INPUT PORT	Initial input port [On reset : HI-Format EEPROM, LOW-Not format EEPROM]
14	PORT7.3 (Not used)	O	*Not used*	*Not used* → <OPEN>
15	PORT7.2 (Not used)	O	*Not used*	*Not used* → <OPEN>
16	PORT 7.1 (Not used)	O	*Not used*	*Not used* → <OPEN>
17	PORT 7.0 (Not used)	O	*Not used*	*Not used* → <OPEN>
18	PORT8.3 (MUT)	O	SERVO (BU-ON)	Audio mute ON/OFF
19	PORT8.2 (EV-ON)	O	MECHANISM DECK (EU-ON)	Power supply for mechanism deck [HI-ON, LOW-OFF]
20	PORT8.1 (M2 –)	O	MECHANISM DECK (EV-ON)	M2 motor ⊖ terminal
21	PORT8.0 (M2)	O	MECHANISM DECK (EV-ON)	M2 motor ⊕ terminal

M2	M2R	OPERATION
HI	HI	M2 BRAKE
HI	LOW	LOAD
LOW	HI	SAVE
LOW	LOW	M2 STOP

22	PORT9.3 (M3)	O	MECHANISM DECK (EV-ON)	M3 motor ⊕ terminal
23	PORT9.2 (M3 –)	O	MECHANISM DECK (EV-ON)	M3 motor ⊖ terminal

M3	M3R	OPERATION
HI	HI	M3 BRAKE
HI	LOW	UP
LOW	HI	DOWN
LOW	LOW	M3 STOP

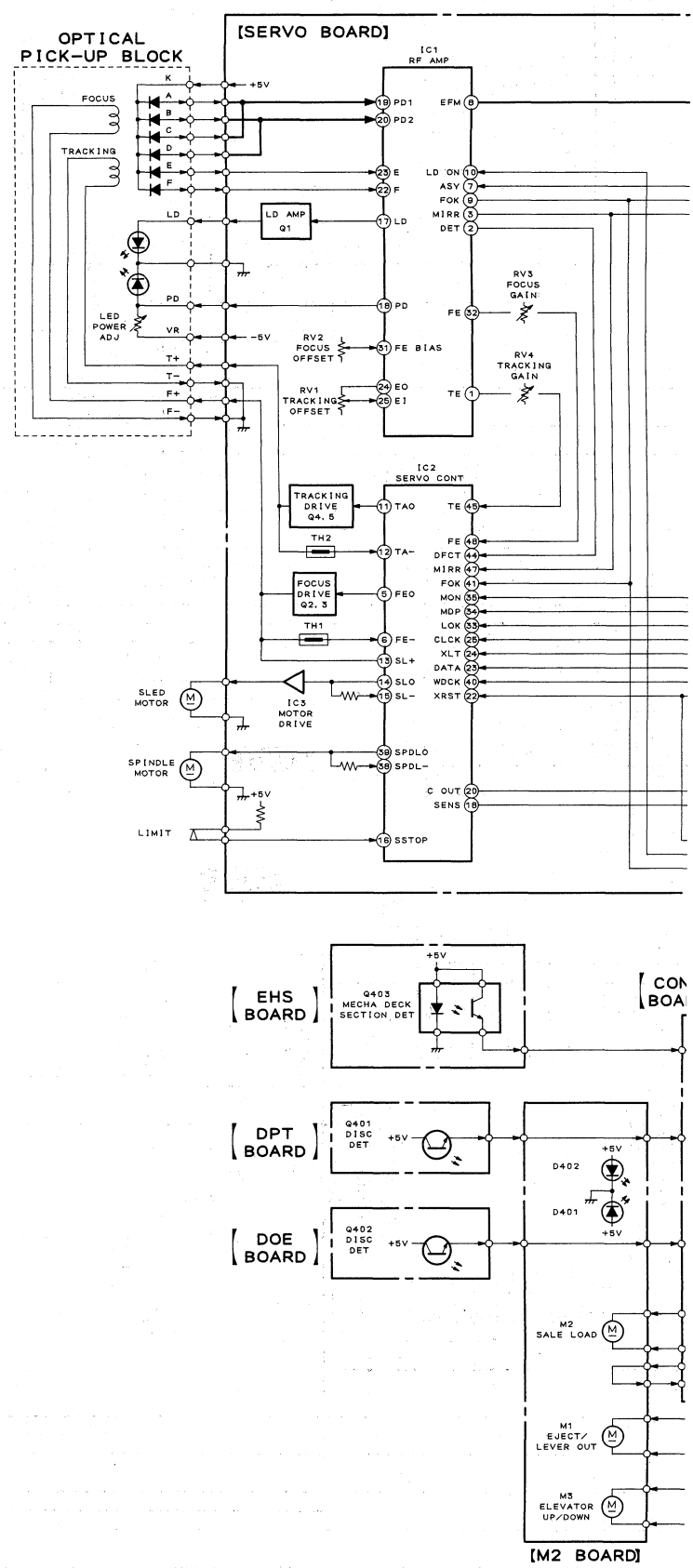
24	PORT9.1 (M1 –)	O	MECHANISM DECK (EV-ON)	M1 motor ⊖ terminal
25	PORT9.0 (M1)	O	MECHANISM DECK (EV-ON)	M1 motor ⊕ terminal

M1	M1R	OPERATION
HI	HI	M1 BRAKE
HI	LOW	EJT
LOW	HI	LVO
LOW	LOW	M1 STOP

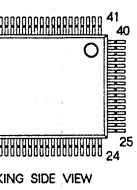
26	Vss	–	HARDWARE (BU-ON)	Ground for microcomputor
27	PORT1.3/INT3 (EJTKY)	I	MECHANISM DECK (BU-ON)	EJECT KYE [HI-ON, LOW-OFF]
28	PORT1.2/INT2 (PST)	I	MECHANISM DECK (BU-ON)	PACK SET SENSOR [HI-There is magazine. LOW-There is not magazine.]
29	PORT1.1/INT1 (EHS)	I	MECHANISM DECK (EV-ON)	EHS SENSOR [HI-There is elevator in the adressed position. LOW-There is not elevator in the adressed position.]
30	PORT1.0/INT0 (SCOR)	I	SERVO (EV-ON)	
31	PTH03 (Not used)	I	*Not used*	
32	PTH02	I	INITIAL INPUT PORT (BU-ON)	
33	PTH01	I	INITIAL INPUT PORT (BU-ON)	
34	PTH00	I	INITIAL INPUT PORT (BU-ON)	
35	TI0 (BUSON)	I	POWER SUPPLY CHEC (BU-ON)	
36	TI1 (Not used)	I	*Not used*	
37	PORT2.3 (Not used)	O	*Not used*	
38	PORT2.2/PCL (Not used)	O	*Not used*	
39	PORT2.1/PTO1 (LNKOF)	O	BUS COMMUNICATION (BU-ON)	
40	PORT2.0/PTO0 (REQ)	O	BUS COMMUNICATION (BU-ON)	
41	PORT0.3/SI (SI)	I	BUS COMMUNICATION (BU-ON)	
42	PORT0.2/SO (SO)	O	BUS COMMUNICATION (BU-ON)	
43	PORT 0.1/SCK (SCK)	I	BUS COMMUNICATION (BU-ON)	
44	PORT 0.0/INT4 (B-CK)	I	POWER SUPPLY CHEC (BU-ON)	
45	PORT 12.3 (EJT)	I	MECHANISM DECK (EV-C	
46	PORT 12.2 (LOT)	I	MECHANISM DECK (EV-C	
47	PORT 12.1 (HOME)	I	MECHANISM DECK (EV-C	
48	PORT 12.0 (Not used)	I	*Not used*	
49	PORT 13.3 (DPT)	I	MECHANISM DECK (EV-C	
50	PORT 13.2 (DOE)	I	MECHANISM DECK (EV-C	
51	PORT 13.1 (HOT)	I	SYSTEM (BU-ON)	
52	PORT 13.0 (Not used)	I	*Not used*	
53	PORT 14.3 (SUBQ)	I	SERVO (CD-ON)	
54	PORT 14.2 (GFS)	I	SERVO (CD-ON)	
55	PORT 14.1 (FOK)	I	SERVO (CD-ON)	
56	PORT 14.0 (SENS)	I	SERVO (CD-ON)	
57	NC	–	HARDWARE (BU-ON)	
58	Vdd	–	HARDWARE (BU-ON)	
59	PORT 3.3 (CLK)	O	SERVO (CD-ON)	
60	PORT3.2 (XLT)	O	SERVO (CD-ON)	
61	PORT3.1 (DATA)	O	SERVO (CD-ON)	
62	PORT3.0 (Not used)	O	*Not used*	
63	PORT4.3 (SQCK)	O	SERVO (CD-ON)	
64	PORT4.2 (EMP)	O	SERVO (CD-ON)	

rt No. Name)	I/O	Category (Active Condition)	Contents
INT0 (SCOR)	I	SERVO (EV-ON)	SCORE SENSOR (Q-Data take in timing) Detects falling edge and takes in Q-Data.
(Not used)	I	*Not used*	*Not used* → <GND>
TH02	I	INITIAL INPUT PORT (BU-ON)	Initial input port [On reset : HI-Audio out not equipped, LOW-Audio out equipped]
TH01	I	INITIAL INPUT PORT (BU-ON)	Initial input port [On reset : HI-Digital out not equipped, LOW-Digital out equipped]
TH00	I	INITIAL INPUT PORT (BU-ON)	Initial input port [On reset : HI-EEPROM not equipped, LOW-EEPROM equipped,]
BUSON)	I	POWER SUPPLY CHECK (BU-ON)	Bus on port for UNI LINK system [HI-Bus on line= LOW "INACTIVE" LOW-Bus on line= HI "ACTIVE"]
Not used)	I	*Not used*	*Not used* → <GND>
3 (Not used)	O	*Not used*	*Not used* → <OPEN>
PCL (Not used)	O	*Not used*	*Not used* → <OPEN>
TO1 (LNKOF)	O	BUS COMMUNICATION (BU-ON)	Link off port (Not used) [HI-Link off , <OPEN>, LOW-Connect link]
/PTO0 (REQ)	O	BUS COMMUNICATION (BU-ON)	Request port [HI-Request on, LOW-Request off]
0.3/SI (SI)	I	BUS COMMUNICATION (BU-ON)	Serial data in port
.2/SO (SO)	O	BUS COMMUNICATION (BU-ON)	Serial data out port
1/SCK (SCK)	I	BUS COMMUNICATION (BU-ON)	Serial clock in port
/INT4 (B-CK)	I	POWER SUPPLY CHECK (BU-ON)	Back-up check port [HI-BU ON, LOW-BU OFF]
12.3 (EJT)	I	MECHANISM DECK (EV-ON)	EJT sensor [HI-ON, LOW-OFF]
12.2 (LOT)	I	MECHANISM DECK (EV-ON)	LOT sensor [HI-OFF, LOW-ON]
2.1 (HOME)	I	MECHANISM DECK (EV-ON)	HOME sensor [HI-OFF, LOW-ON]
2.0 (Not used)	I	*Not used*	*Not used* → <OPEN>
13.3 (DPT)	I	MECHANISM DECK (EV-ON)	DPT sensor [HI-ON, LOW-OFF]
13.2 (DOE)	I	MECHANISM DECK (EV-ON)	DOE sensor [HI-ON, LOW-OFF]
13.1 (HOT)	I	SYSTEM (BU-ON)	Detects high temperature in the set [HI-Else, LOW-Hi temp]
3.0 (Not used)	I	*Not used*	*Not used* → <GND>
14.3 (SUBQ)	I	SERVO (CD-ON)	Q-Data take in terminal
14.2 (GFS)	I	SERVO (CD-ON)	Out of GFS (tracking) check terminal [HI-GFS ON, OUT OF LOW-GFS]
14.1 (FOK)	I	SERVO (CD-ON)	Out of FOK (focus) check terminal [HI-FOCUS ON, OUT OF LOW-FOCUS]
14.0 (SENS)	I	SERVO (CD-ON)	From servo IC sense terminal
NC	–	HARDWARE (BU-ON)	NC (Not Connected) → <VDD>
Vdd	–	HARDWARE (BU-ON)	Power supply for microcomputer
3.3 (CLK)	O	SERVO (CD-ON)	Clock out to servo IC
T3.2 (XLT)	O	SERVO (CD-ON)	Latch out to servo IC
3.1 (DATA)	O	SERVO (CD-ON)	Data out to servo IC
.0 (Not used)	O	*Not used*	*Not used* → <OPEN>
4.3 (SQCK)	O	SERVO (CD-ON)	Clock out for taking in Q-Data
T4.2 (EMP)	O	SERVO (CD-ON)	Emphasis out to servo IC

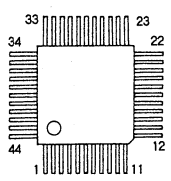
6-2. BLOCK DIAGRAM



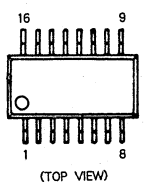
CXD2500Q



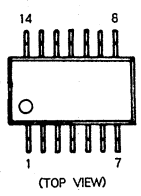
CXD2552Q-2



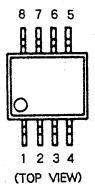
CXD2557M



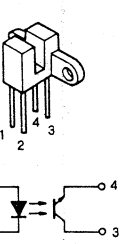
LC74HC04M
PCM-1700U-K
X24LC161



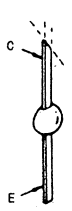
LM2903M
RM4560M



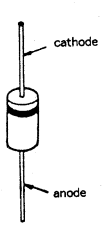
GP-1S03



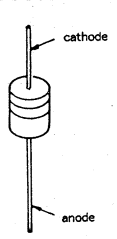
PH102L



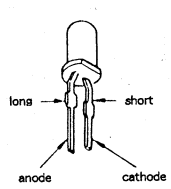
HZ6A2L
PZ427



RB100A
RD13ES-B1
RD18ES-B1
RD6.2ES-B1
RD6.2ES-B2
RD6.2ES-L1
RD9.1ES-B1
1SS119

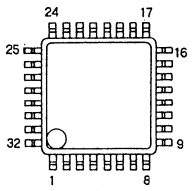


GL4PG8
TLR123

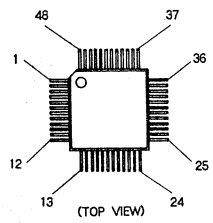


• Semiconductor Lead Layouts

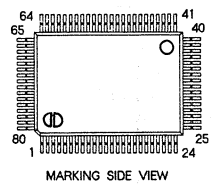
CXA1081Q



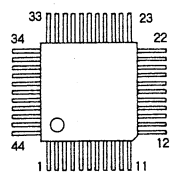
CXA1182Q-Z



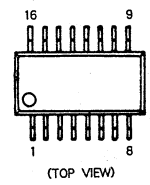
CXD2500Q



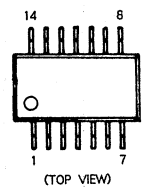
CXD2552Q-2



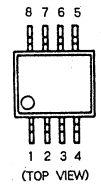
CXD2557M



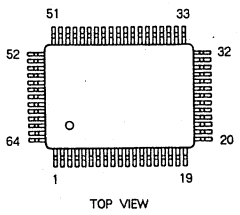
LC74HC04M
PCM-1700U-K
X24LC161



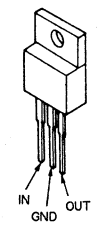
LM2903M
RM4560M



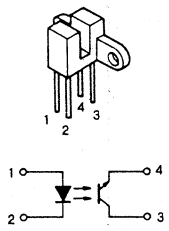
μPD75116GF-E25-3BE



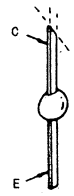
RC7805FA



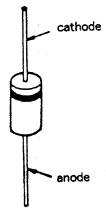
GP-1S03



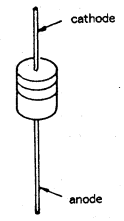
PH102L



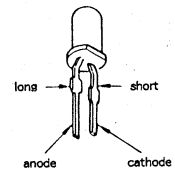
HZ6A2L
PZ427



RB100A
RD13ES-B1
RD18ES-B1
RD6.2ES-B1
RD6.2ES-B2
RD6.2ES-L1
RD9.1ES-B1
1SS119



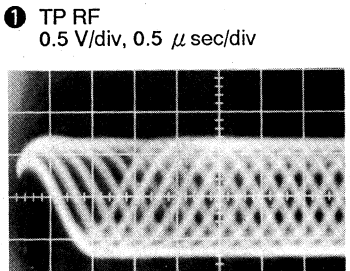
GL4PG8
TLR123



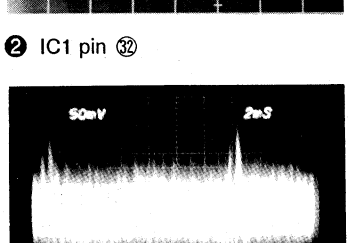
6-3. SCHEMATIC DIAGRAM

- **Wave forms**

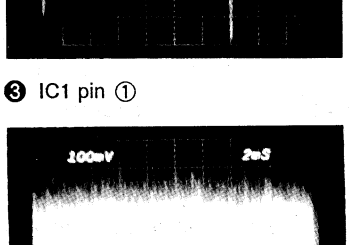
❶ TP RF
0.5 V/div, 0.5 μ sec/div



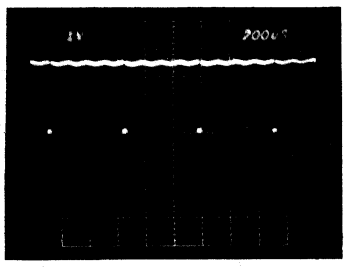
❷ IC1 pin ㉜



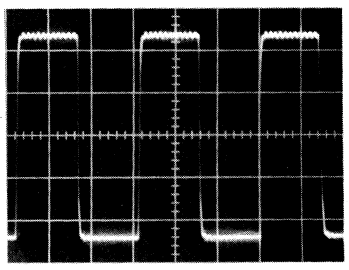
❸ IC1 pin ①



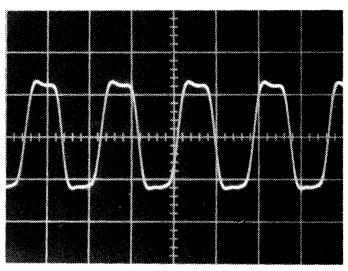
❹ IC2 pin ㉞, IC4 pin ④



❺ IC303 pin ⑭
1 V/div, 1 μ sec/div



❻ IC304 pin ⑪, ⑫
2 V/div, 0.1 μ sec/div

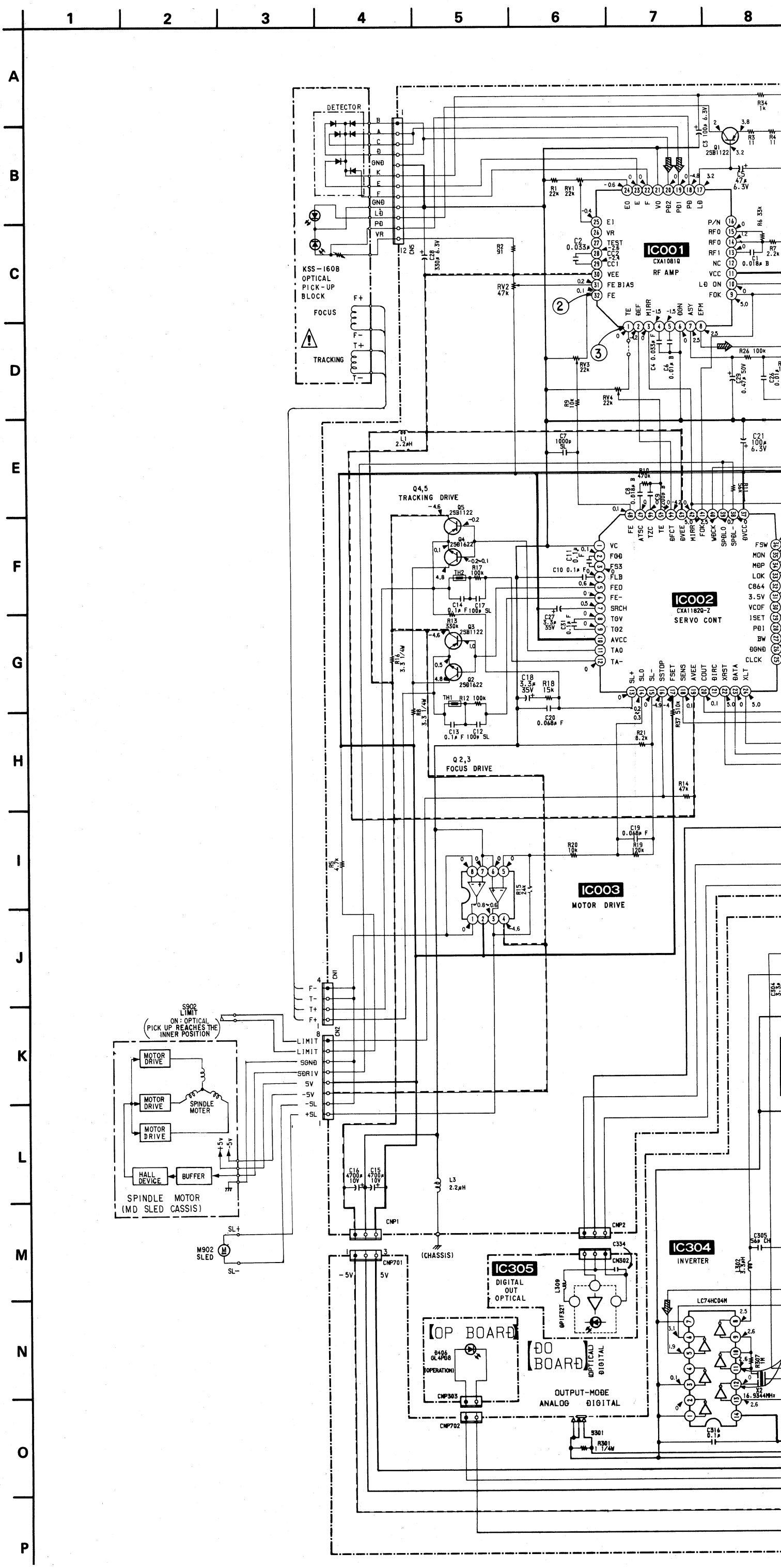


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B + Line.
- ▬ ▬ : B − Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from CN501 connected to the head unit (XR-U800 or equivalent).
- Voltages and waveforms are dc with respect to ground under CD play conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Wavefroms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to wavefroms.
- Signal path.
  ⇨ : CD



【SERVO BOARD】

Q1
LD AMP.

IC104
CXD2500Q
SIGNAL PROCESSOR

IC302
SOUND DET

IC301
DIGITAL FILTER

IC303
D/A CONVERTER

IC202
AF AMP

IC102
AF AMP

IC501
μPD751168F
SYSTEM CONTROL

IC502
X24LC161
RAM

IC503
RESET

IC702
5V REG

Q507, 508 SW

Q503, 506 SW

Q504, 505 SW

Q102, 202 MUTE

Q103, 203 MUTE

Q303 SW

Q301, 302 RELAY DRIVE

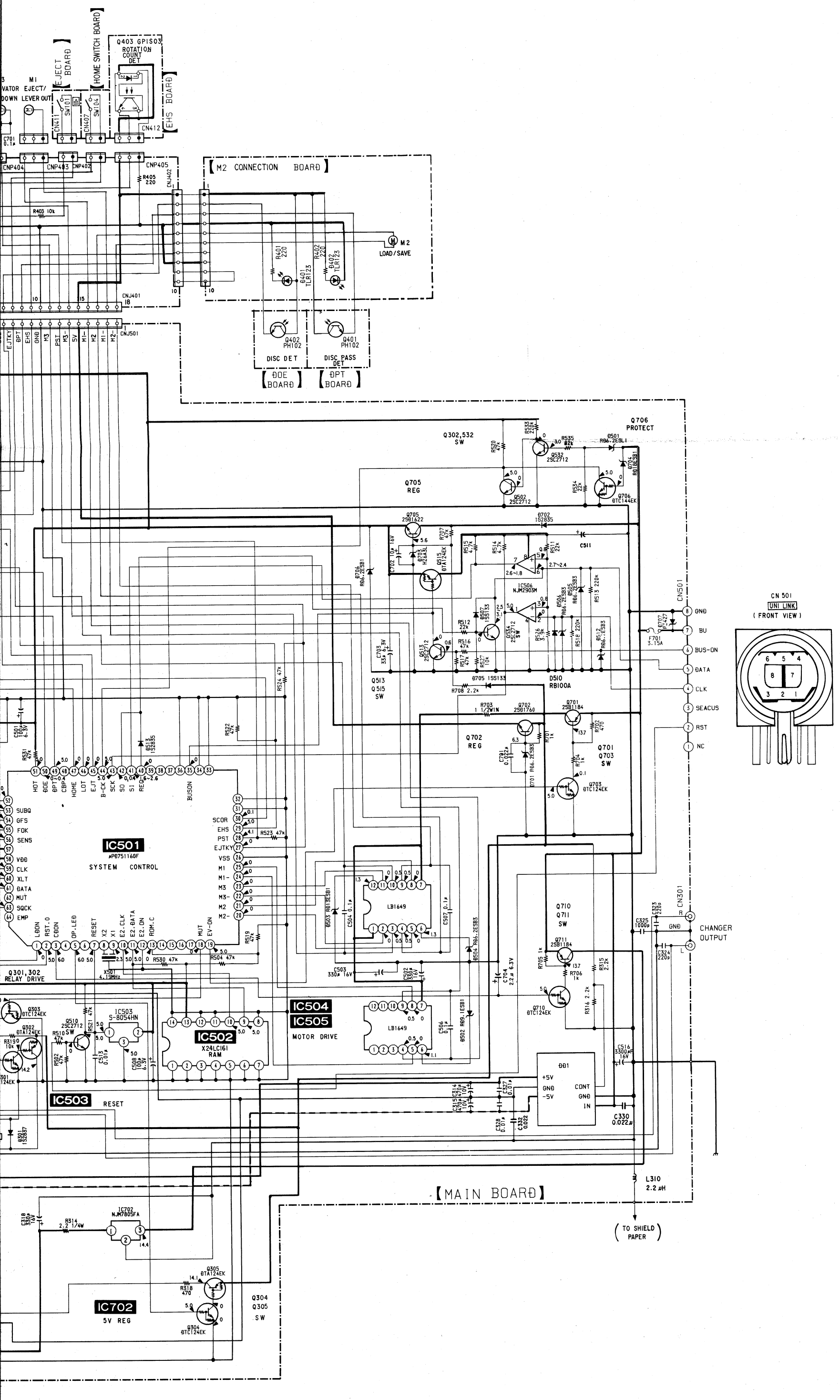
Q304 Q305 SW

【LOT SW BOARD】
【PST SW BOARD】
【EJECT SW BOARD】
【EJECT BOARD】
【HOME SWITCH BOARD】
Q403 GP1S03 ROTATION COUNT DET
【EHS BOARD】
M3 ELEVATOR UP/DOWN
M1 EJECT/ LEVER OUT

【RELAY BOARD】

【M2 CONNECT

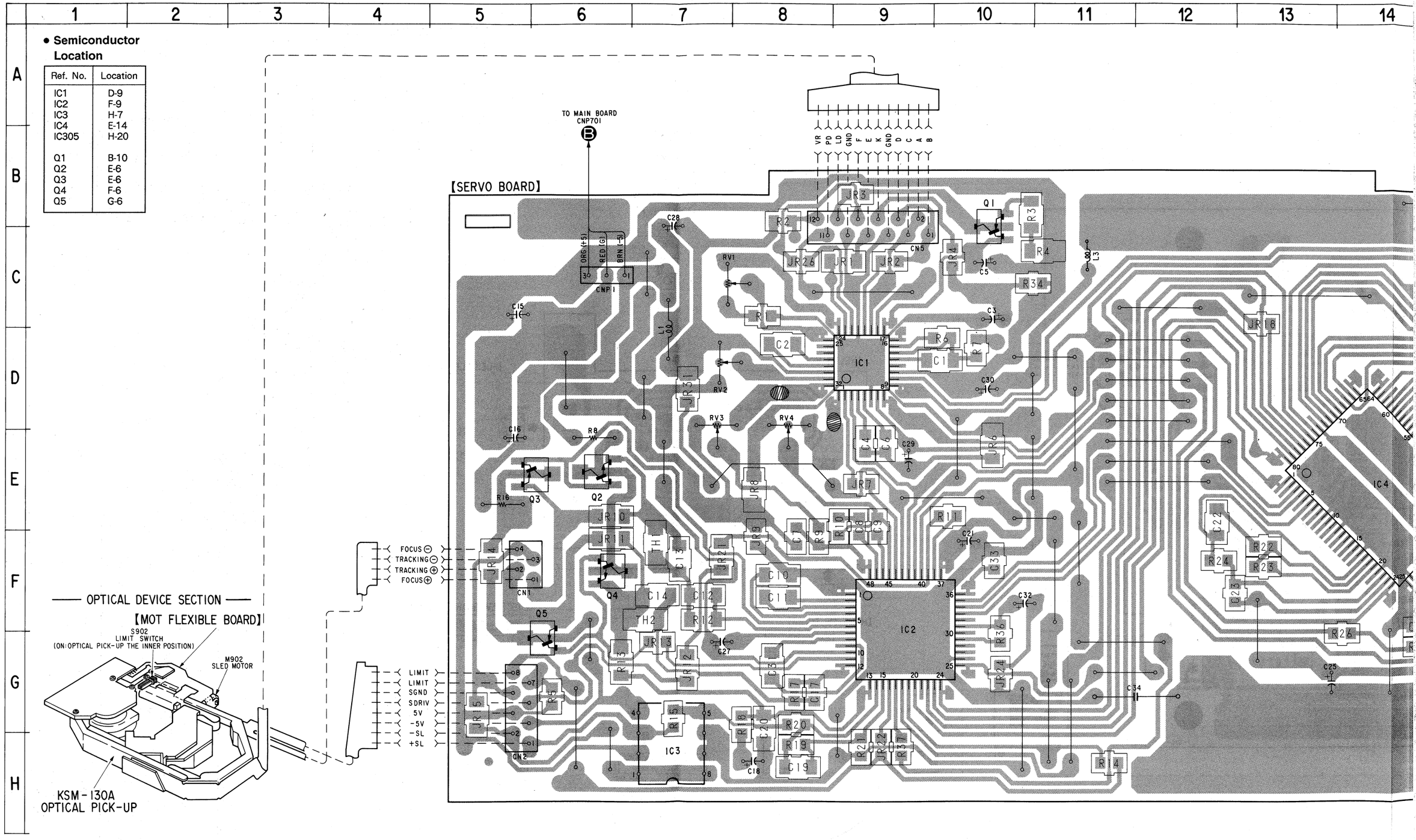
US, GERMANY MODEL

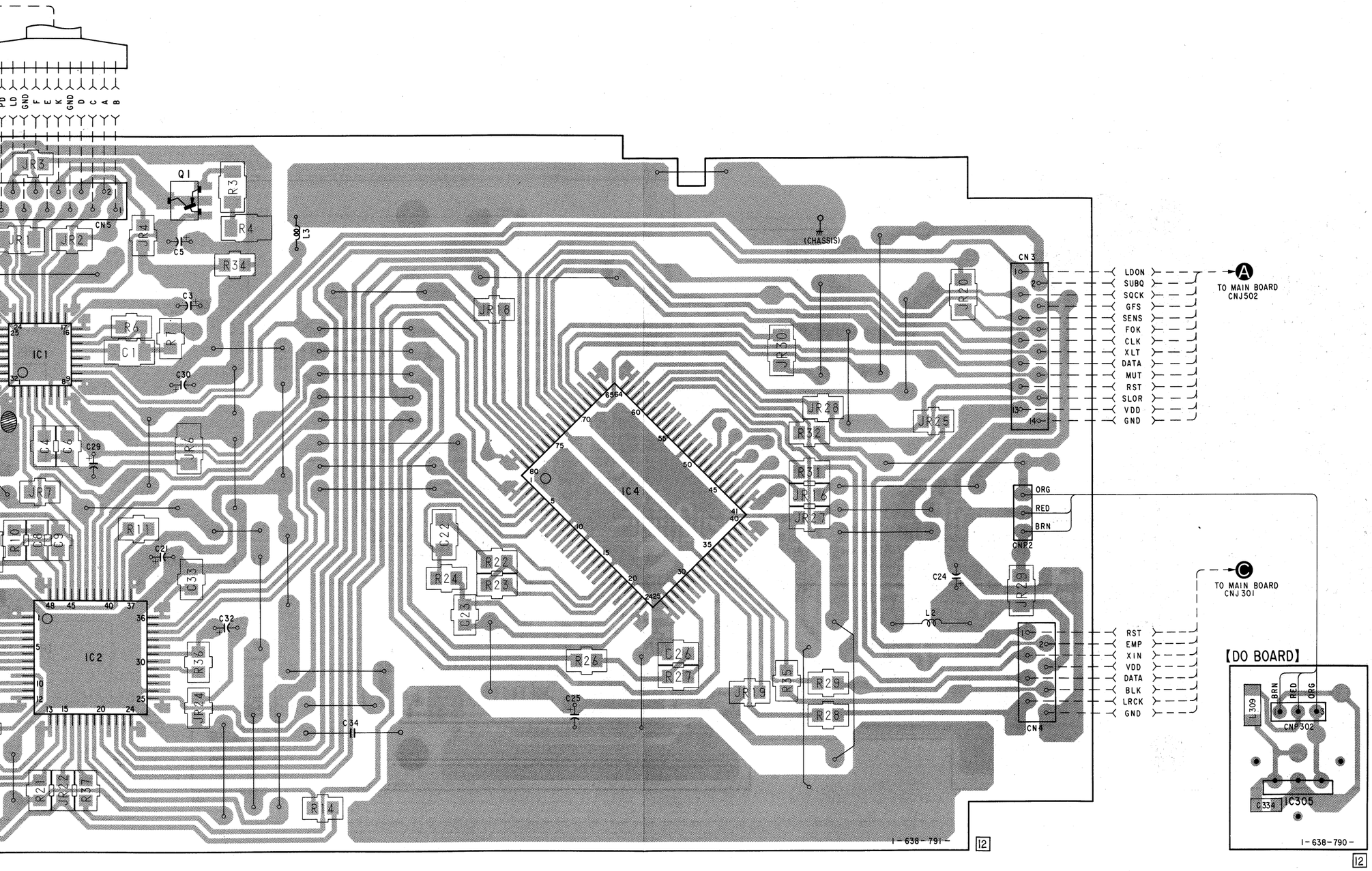

17
18
19
20
21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q403 GPIS03
ROTATION COUNT DET
EJECT BOARD
HOME SWITCH BOARD
EHS BOARD
M1 EJECT/ LEVER OUT
CN411
CN407
CN412
SW101
SW104
CNP404
CNP403
CNP402
CNP405
R405 220
R403 10k
CNJ402
CNJ401
CNJ501
M2 CONNECTION BOARD
R401 220
R402 220
D401 TLR123
D402 TLR123
M2
LOAD / SAVE
Q402 PH102
DISC DET
Q401 PH102
DISC PASS DET
ΘOE BOARD
ΘPT BOARD
EJTKY
ΘPT
EHS
GNΘ
M3
PSI
M3-
5V
M1-
M2
M1-
M2-
Q706 PROTECT
Q532 2SC2712
Q501 RB6.2ESL1
Q704 RB18ES81
Q502 2SC2712
Q706 ΘTC144EK
Q705 REG
Q705 2SB1622
Q702 152835
C511
Q703 HZ6A3L
Q515 ΘTA124EK
R706 RB6.2ES81
IC506 NJM2903M
R506 RB6.2ES83
R505 RB6.2ES83
R513 220k
R518 220k
R512 RB6.2ES83
Q507 1SS133
Q534 2SC2712 SW
R526 3.9k
Q513 2SC2712
Q515 SW
D510 RB100A
Θ705 1SS133
R708 2.2k
Q702 REG
R703 1 1/2W1%
Q702 2SD1760
Q701 2SB1184
Q701 Q703 SW
Q703 ΘTC124EK
CN501
GNΘ
BU
BUS-ON
ΘATA
CLK
SEACUS
RST
NC
F701 3.15A
Θ707 PZ4.7Z
CN 501
UNI LINK
(FRONT VIEW)
6 5 4
8 7
3 2 1
IC501
μPD75116GF
SYSTEM CONTROL
SUBQ
GFS
FOK
SENS
VΘΘ
CLK
XLT
ΘATA
MUT
SQCK
EMP
LΘΘN
RST.O
CΘΘN
OP.LED
RESET
X2
X1
E2.CLK
E2.ΘATA
E2.ΘN
ROM.C
MUT
EV-ON
HOT
ΘOE
ΘPT
CΘP
HOME
LOT
EJT
B-CK
SCK
SO
SI
REQ
BUSON
SCOR
EHS
PST
EJTKY
VSS
M1
M1-
M3
M3-
M2
M2-
R519 47k
R504 47k
R530 47k
X501 4.19MHz
Q301,302 RELAY DRIVE
Q303 ΘTC124EK
Q302 ΘTA124EK
R319 10k
Q510 2SC2712 SW
R510 47k
IC503 S-8054HN
R521 47k
R502 47k
C513 0.01μ
C508 100μ 6.3V
IC503 RESET
D301 152857
IC504
IC505
MOTOR DRIVE
IC502
X24LC161
RAM
LB1649
B503 RB13ES81
B504 RB6.2ES83
B502 RB9.1ES81
C504 0.1μ
C507 0.1μ
C503 330μ 16V
C502 330μ 16V
C506 0.1μ
C704 2.2μ 6.3V
Q710 Q711 SW
Q711 2SB1184
R705 1k
R706 1k
R315 2.2k
Q710 ΘTC124EK
R316 2.2k
CN301
R
L
C323 2200
C325 1000p
C324 220p
GNΘ
CHANGER OUTPUT
C516 3300μF 16V
ΘΘ1
+5V
GNΘ
-5V
CONT
GNΘ
IN
C330 0.022μ
C314 470μ 10V
C315 470μ 10V
C327 0.01μ
C328 0.01μ
C332 0.022
L310 2.2 μH
【MAIN BOARD】
TO SHIELD PAPER
IC702 NJM7805FA
R314 2.2 1/4W
C318 330μ 16V
IC702 5V REG
Q305 ΘTA124EK
R318 470
Q304 ΘTC124EK
Q304 Q305 SW

6-4. SERVO SECTION PRINTED WIRING BOARDS

• **Semiconductor Location**

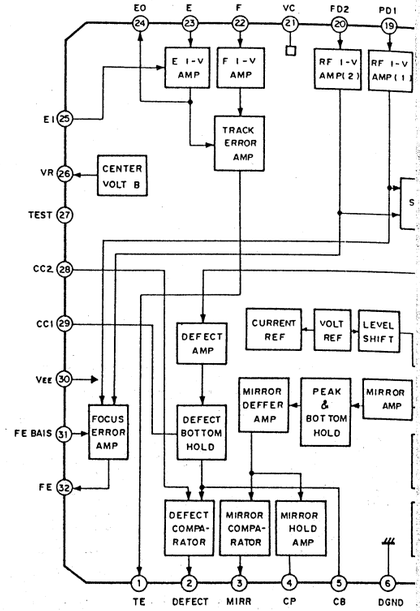
Ref. No.	Location
IC1	D-9
IC2	F-9
IC3	H-7
IC4	E-14
IC305	H-20
Q1	B-10
Q2	E-6
Q3	E-6
Q4	F-6
Q5	G-6



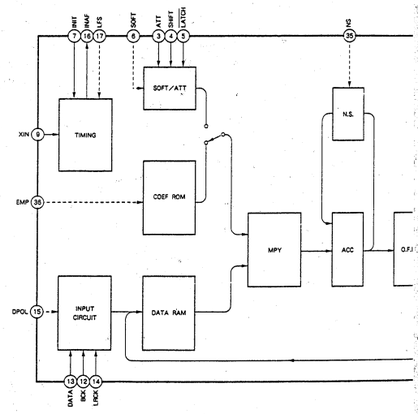


• IC Block Diagrams

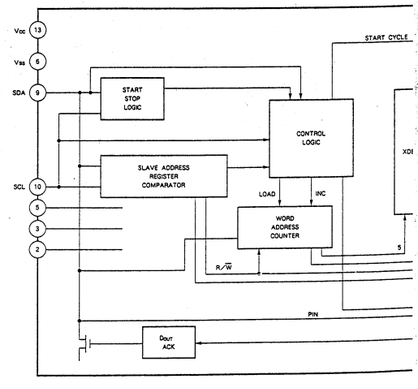
IC1 CXA1081Q



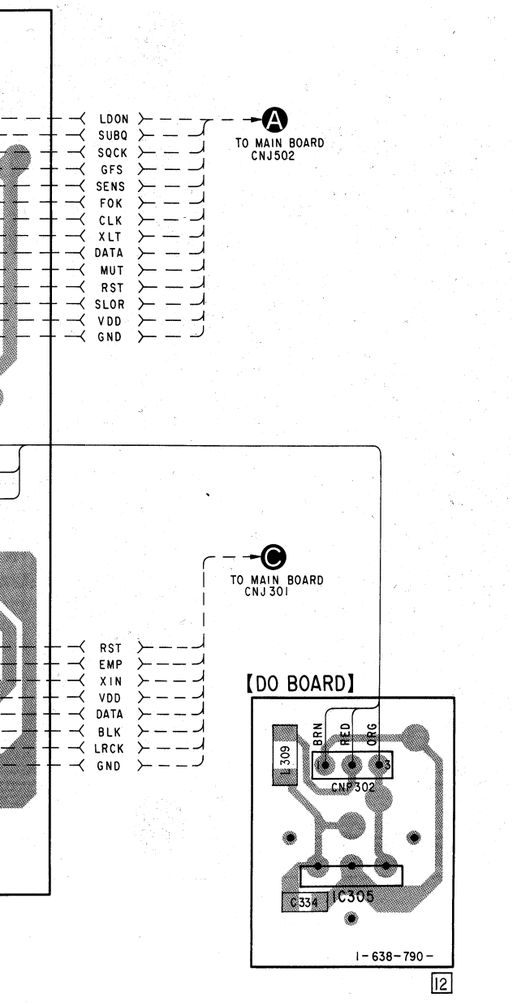
IC301 CXD1244S



IC502 X24LC161

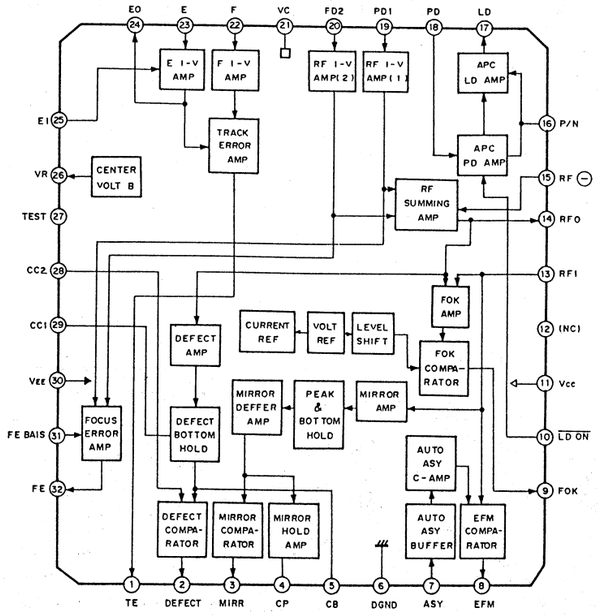


18	19	20

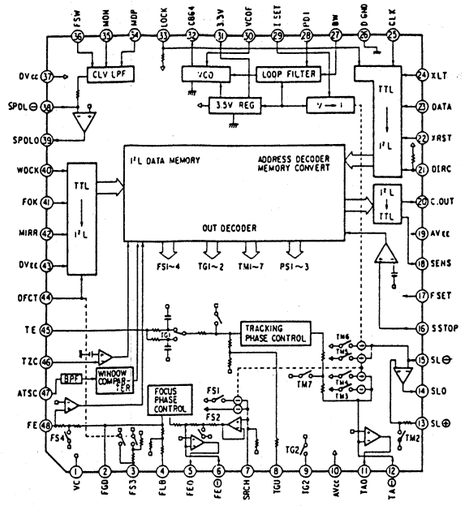


• IC Block Diagrams

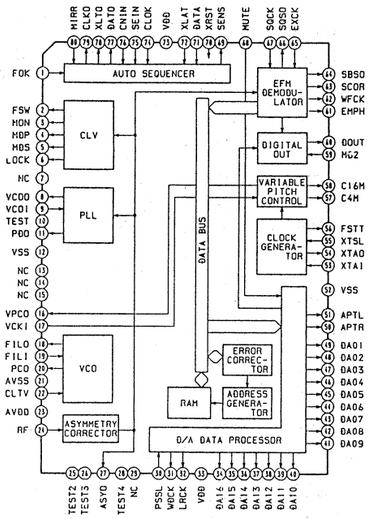
IC1 CXA1081Q



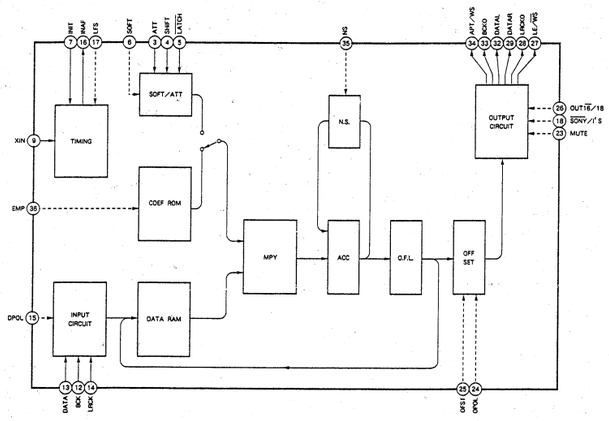
IC2 CXA1082Q-Z



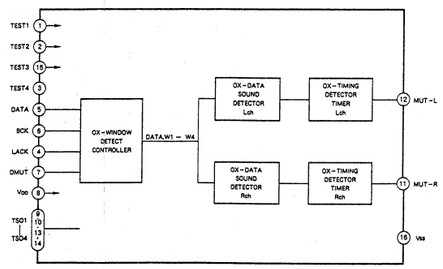
IC4 CXD2500Q



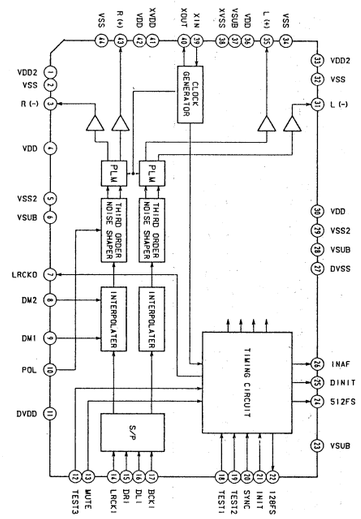
IC301 CXD1244S



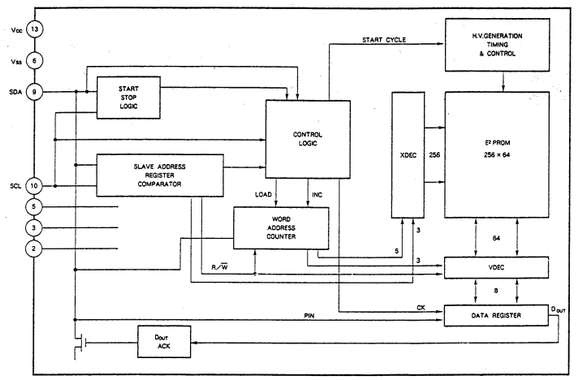
IC302 CXD2557M



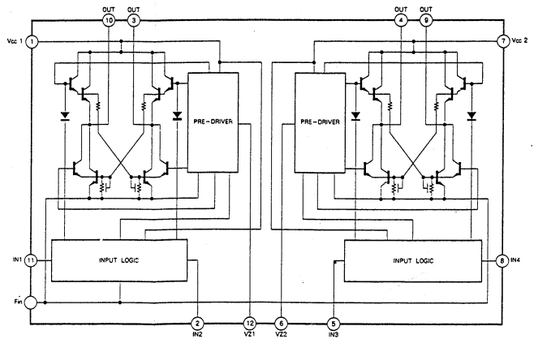
IC303 CXD2552Q



IC502 X24LC161



IC504, 505 LB1649



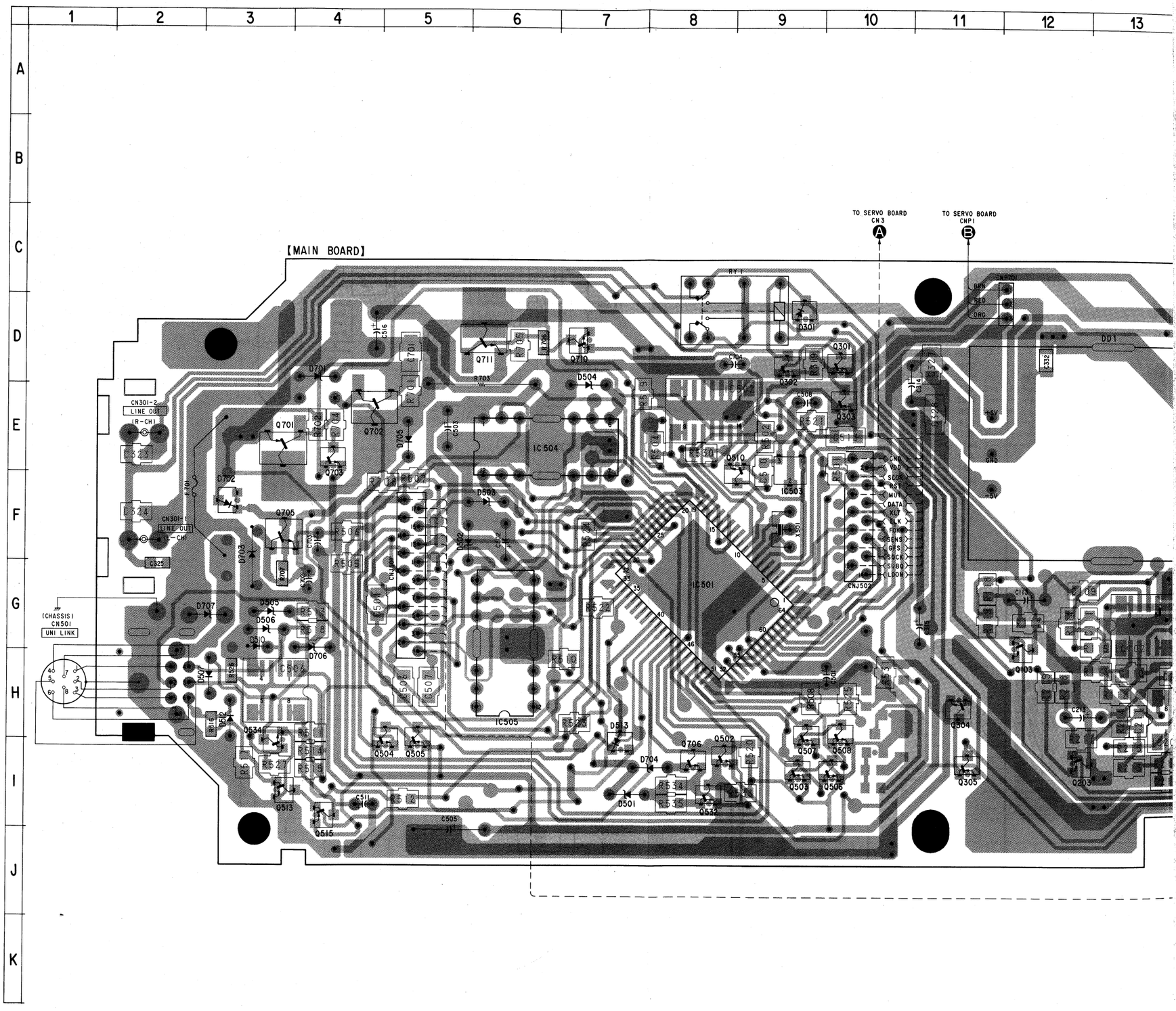
6-5. MAIN SECTION PRINTED WIRING BOARDS

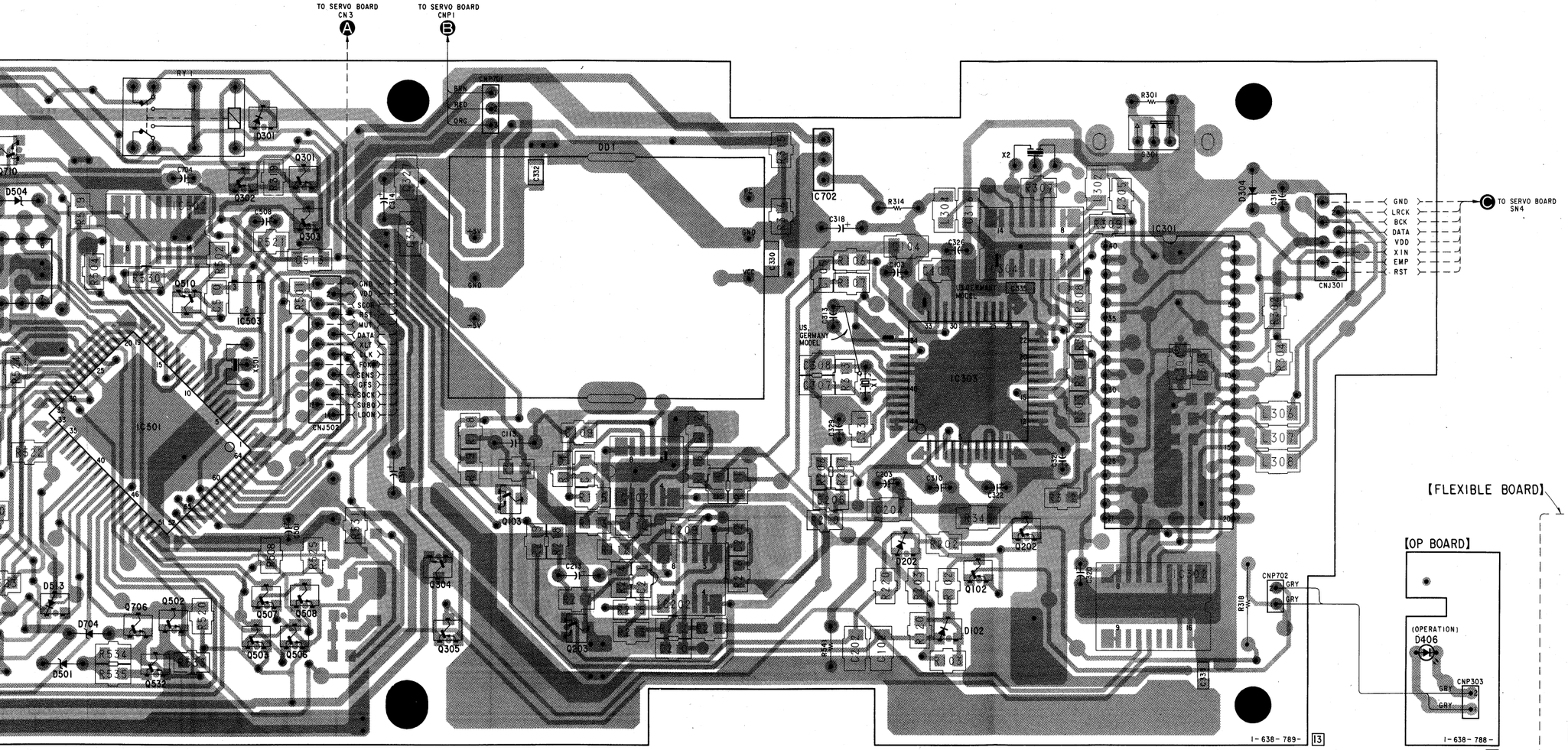
- **Semiconductor Location**

Ref. No.	Location
D102	I-16
D202	H-16
D301	D-9
D304	D-19
D401	C-31
D402	J-33
D406	I-21
D501	I-7
D502	F-5
D503	F-6
D504	E-7
D505	G-3
D506	G-3
D507	H-3
D510	G-3
D512	H-3
D513	H-7
D701	D-4
D702	F-3
D703	F-3
D704	I-8
D705	E-5
D706	G-4
D707	G-3
IC102	G-13
IC202	H-13
IC301	F-18
IC302	H-18
IC303	F-16
IC304	E-17
IC501	G-8
IC502	E-8
IC503	E-9
IC504	E-6
IC505	G-6
IC506	H-3
IC702	D-15
Q102	H-16
Q103	G-12
Q202	H-17
Q203	I-12
Q301	D-10
Q302	D-9
Q303	E-10
Q304	H-11
Q305	I-11
Q401	J-33
Q402	C-31
Q403	B-26
Q502	I-8
Q503	I-9
Q504	H-5
Q505	H-5
Q506	I-10
Q507	H-9
Q508	H-10
Q510	E-9
Q513	I-3
Q515	I-4
Q532	I-8
Q534	I-3
Q701	E-3
Q702	E-4
Q703	E-4
Q705	F-3
Q706	I-8
Q710	D-7
Q711	D-6

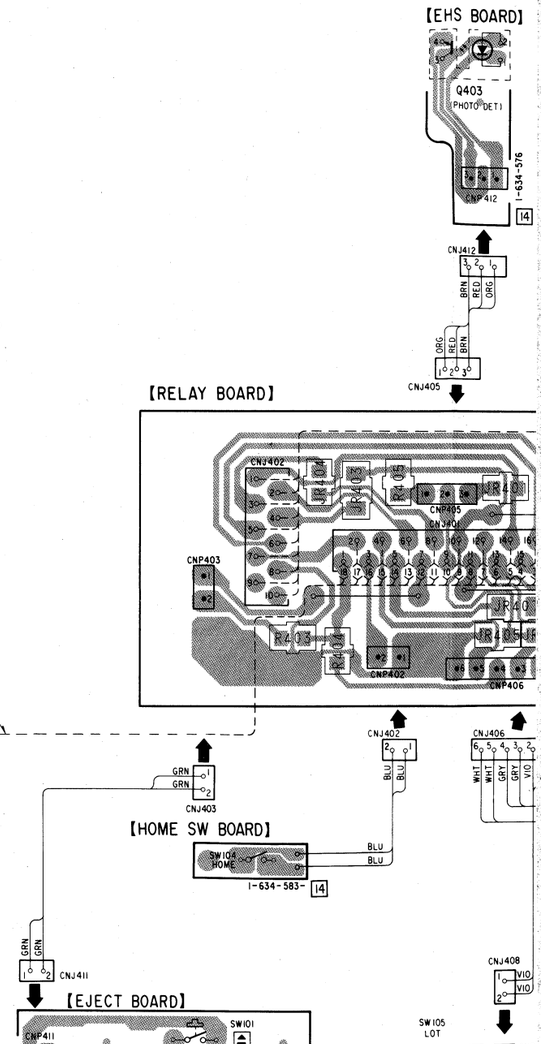
Note:

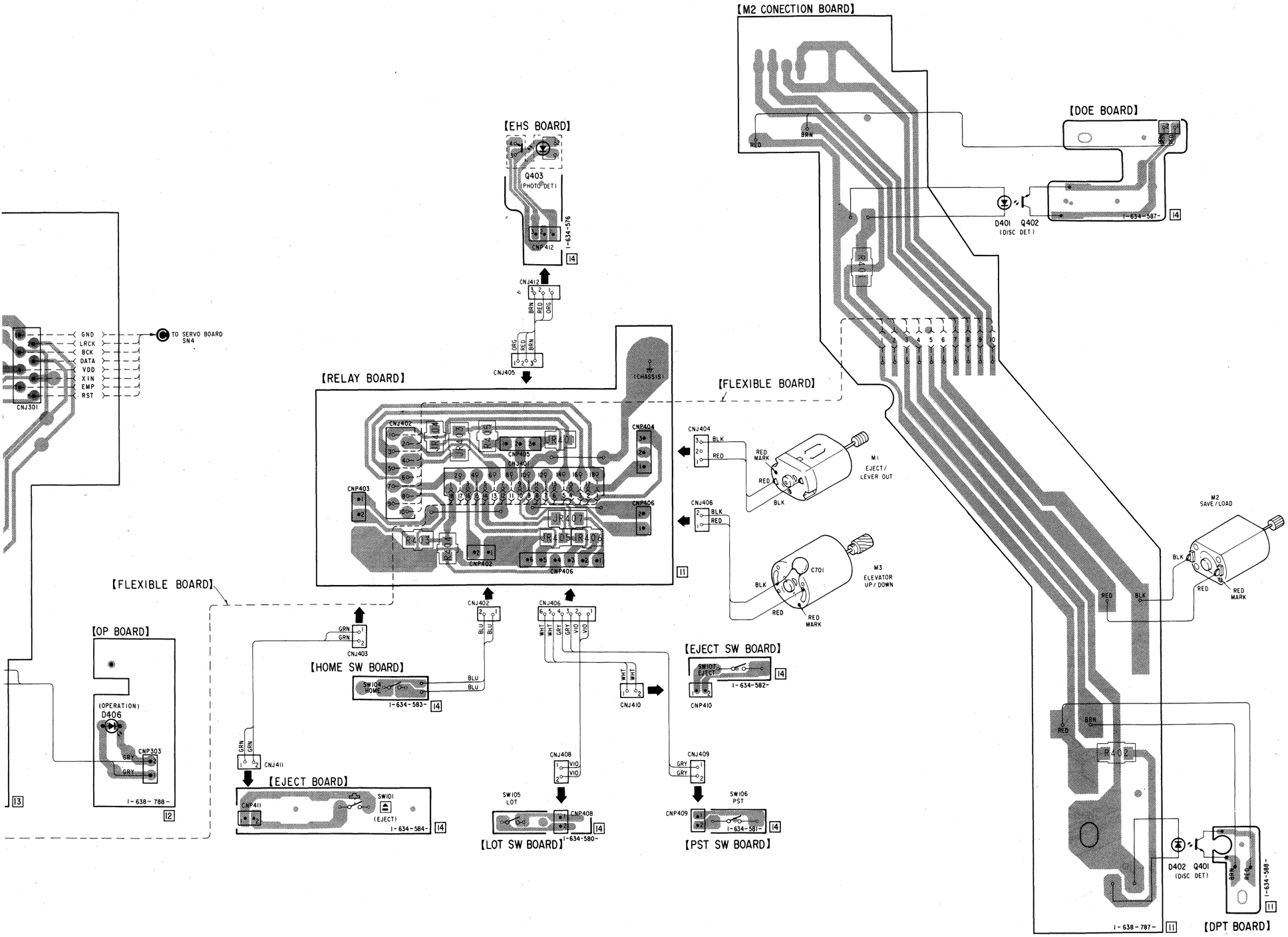
- ● : Through hole.
- ▒ : Pattern on the side which is seen.
- ▒ : Pattern of the rear side.




TO SERVO BOARD CN3
TO SERVO BOARD CNP1
TO SERVO BOARD SN4
IC501
IC303
IC702
IC301
CNJ502
CNJ301
CNP702
D504
D501
D704
D706
D510
D513
D202
D102
Q301
Q302
Q303
Q304
Q305
Q501
Q502
Q503
Q506
Q507
Q508
Q532
Q202
Q102
Q203
Q103
R301
R314
R318
X2
GND
LRCK
BCK
DATA
VDD
XIN
EMP
RST
1-638-789-
13

【OP BOARD】
(OPERATION)
D406
CNP303
1-638-788-
12


【EHS BOARD】
Q403
PHOTO DET
CNP412
1-634-576-
14
CNJ412
CNJ405
【RELAY BOARD】
CNJ402
CNP405
CNJ404
CNP403
CNP402
CNP406
【FLEXIBLE BOARD】
CNJ402
CNJ406
【HOME SW BOARD】
CNJ403
SW104
HOME
1-634-583-
14
CNJ411
【EJECT BOARD】
CNP411
SW101
(EJECT)
1-634-584-
14
CNJ408
SW105
LOT
【LOT SW BOARD】
1-634-


【M2 CONECTION BOARD】
【DOE BOARD】
【EHS BOARD】
Q403
(PHOTO DET)
CNP412
1-634-576
CNJ412
CNJ405
【RELAY BOARD】
【FLEXIBLE BOARD】
CNJ402
CNP405
CNJ401
CNP404
CNP403
CNP406
CNP402
JR407
JR408-JR409
R403
CNJ404
CNJ406
M1
EJECT/
LEVER OUT
M3
ELEVATOR
UP/DOWN
C701
D401 Q402
(DISC DET)
1-634-587-
M2
SAVE/LOAD
D402 Q401
(DISC DET)
1-634-588-
1-638-787-
【DPT BOARD】
TO SERVO BOARD
SN4
CNJ301
GND
LRCK
BCK
DATA
VDD
XIN
EMP
RST
【OP BOARD】
(OPERATION)
D406
CNP303
1-638-788-
【FLEXIBLE BOARD】
CNJ403
【HOME SW BOARD】
SW104
HOME
1-634-583-
CNJ411
【EJECT BOARD】
CNP411
SW101
(EJECT)
1-634-584-
CNJ410
【EJECT SW BOARD】
SW107
EJECT
1-634-582-
CNP410
CNJ408
SW105
LOT
CNP408
【LOT SW BOARD】
1-634-580-
CNJ409
SW106
PST
CNP409
1-634-581-
【PST SW BOARD】

SECTION 7
EXPLODED VIEWS

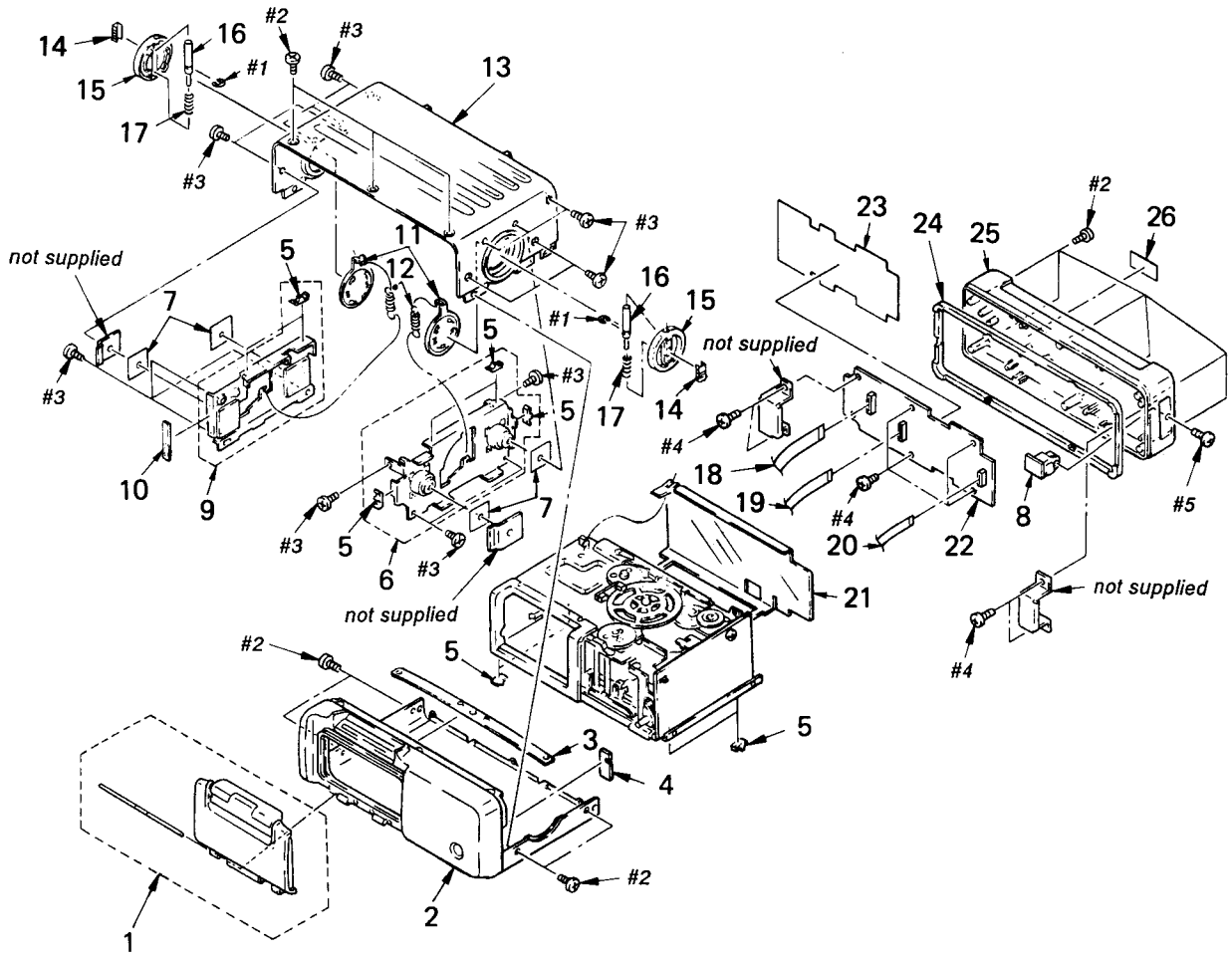
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

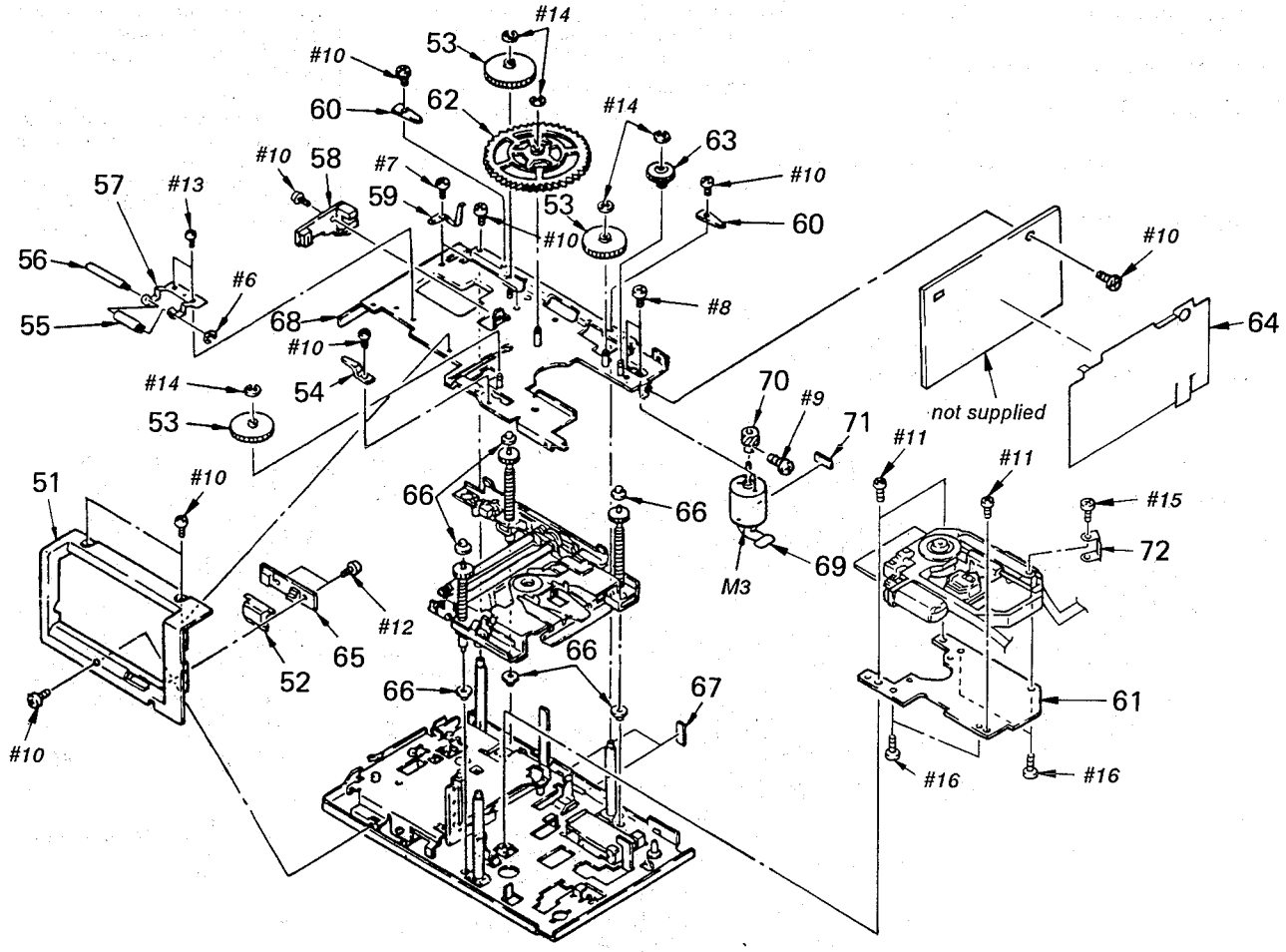
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) CASE SECTION



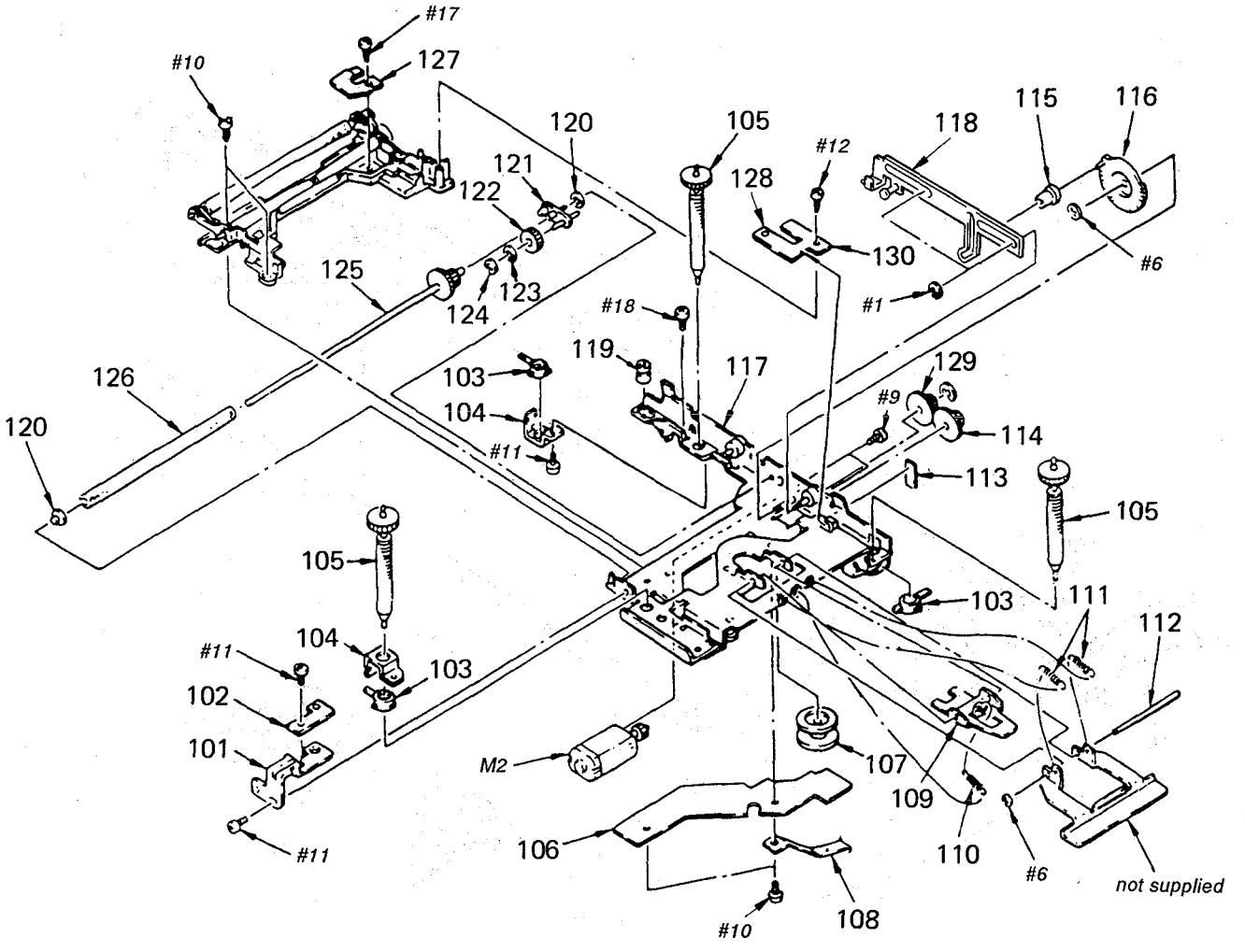
Ref.No.	Part No.	Description	Remark
1	X-3363-199-1	DOOR ASSY	
2	X-3363-198-1	CASE (LOWER) ASSY	
3	* 3-359-001-01	BRACKET (UPPER)	
4	* 1-638-788-11	O.P BOARD	
5	3-348-750-01	CUSHION (DAMPER)	
6	A-3252-177-A	BRACKET ASSY (R), DAMPER	
7	3-362-294-01	WASHER (TEFLON)	
8	* 1-638-790-11	D.O BOARD	
9	A-3252-176-A	BRACKET ASSY (L), DAMPER	
10	* 3-360-109-01	SHEET (LCD), INSULATING	
11	* 3-359-004-01	BRACKET (SPRING)	
12	3-359-031-01	SPRING (FLOATING), TENSION	
13	X-3362-806-1	CASE (UPPER) ASSY	
14	3-359-033-11	KNOB	
15	3-359-032-11	LEVER	
16	* 3-359-014-01	SHAFT (POSITION)	
17	3-127-111-00	SPRING	
18	1-638-783-11	PC BOARD, TRANSLATION FLEXIBLE	
19	* A-3273-371-A	SERVO BOARD, COMPLETE	
20	1-638-785-11	PC BOARD, 8P FLEXIBLE	
21	* 3-368-542-01	PLATE (MD), SHIELD	
22	* A-3273-370-A	MAIN BOARD, COMPLETE	
23	* 3-367-473-01	PLATE, SHIELD	
24	* 3-367-152-01	PACKING (R)	
25	3-367-151-01	CASE (REAR)	
26	* 3-368-680-01	LABEL, MODEL NUMBER (G)	
26	* 3-367-974-01	LABEL, MODEL NUMBER (US/AEP)	
26	* 3-367-677-01	LABEL, MODEL NUMBER (CND)	

(2) MD SECTION (1)



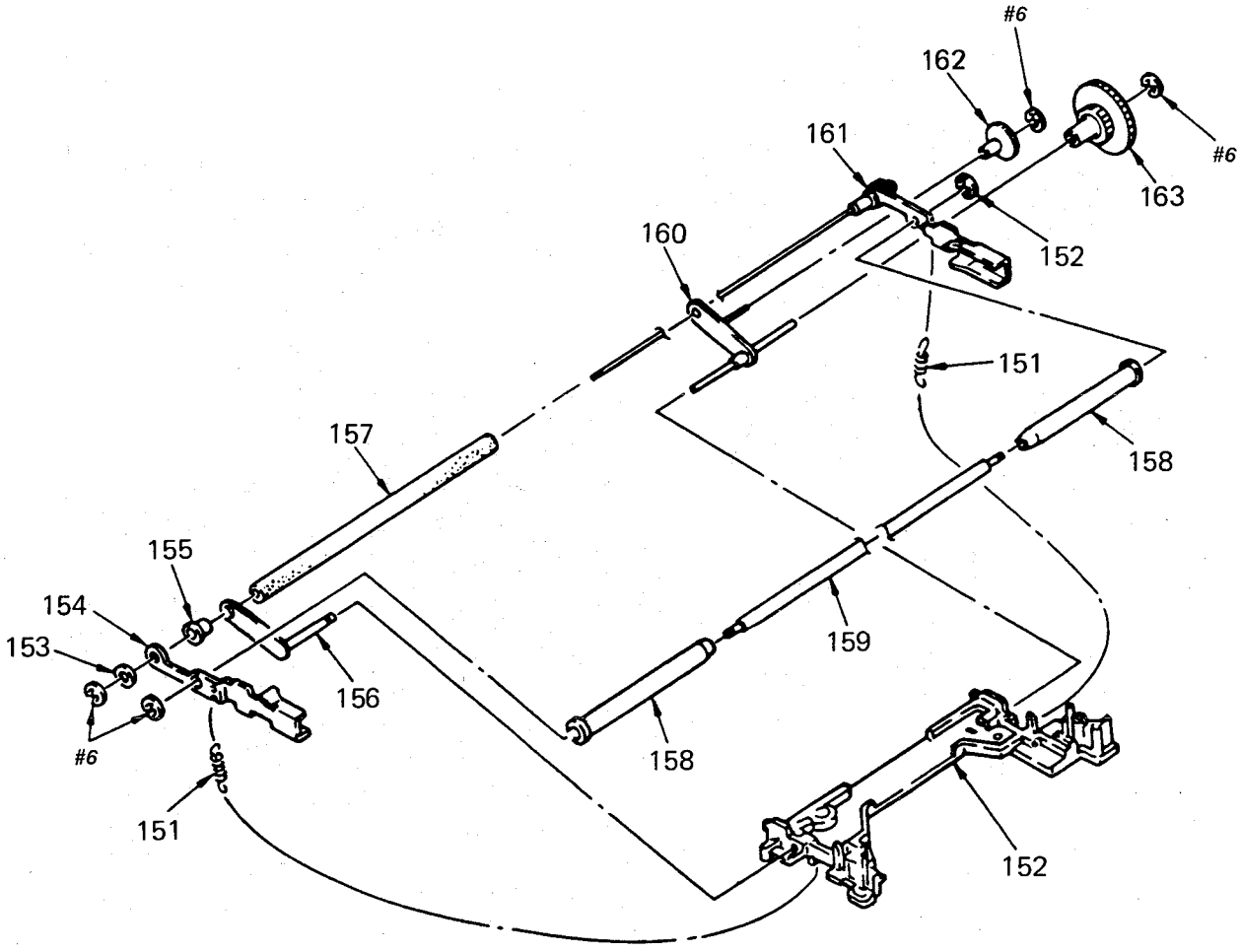
Ref. No.	Part No.	Description	Remark
51	3-369-019-11	ESCUTCHEON	
52	3-359-035-01	BUTTON (EJECT)	
53	3-331-916-01	GEAR (MIDDLE), ELEVATOR	
54	* 3-333-082-01	RETAINER, SCREW, FEED	
55	3-343-708-01	ROLLER, MAGAZINE	
56	* 3-343-711-01	SHAFT, ROLLER, MAGAZINE	
57	3-343-710-11	SPRING	
58	1-162-793-11	EHS BOARD	
59	3-343-709-01	SPRING	
60	3-331-907-01	RETAINER, SCREW, FEED	
61	* 3-343-714-01	BRACKET, FOP	
62	3-367-150-01	GEAR (LARGE), ELEVATOR	
63	3-343-707-01	GEAR (SMALL), ELEVATOR	
64	* 3-367-472-01	PLATE, SHIELD	
65	1-622-796-11	EJECT BOARD	
66	3-333-081-01	BEARING (UPPER & LOWER)	
67	3-568-749-00	CUSHION, ECM	
68	* X-3329-567-1	PLATE ASSY, TOP	
69	1-136-165-00	CAP, METALIZED FILM 0.1MF	
70	3-363-927-01	GEAR (MOTOR)	
71	3-831-441-11	CUSHION	
72	* 3-343-741-01	PLATE, GROUND	
M3	1-541-309-11	MOTOR, L (RF-370C)	

(3) MD SECTION (2)



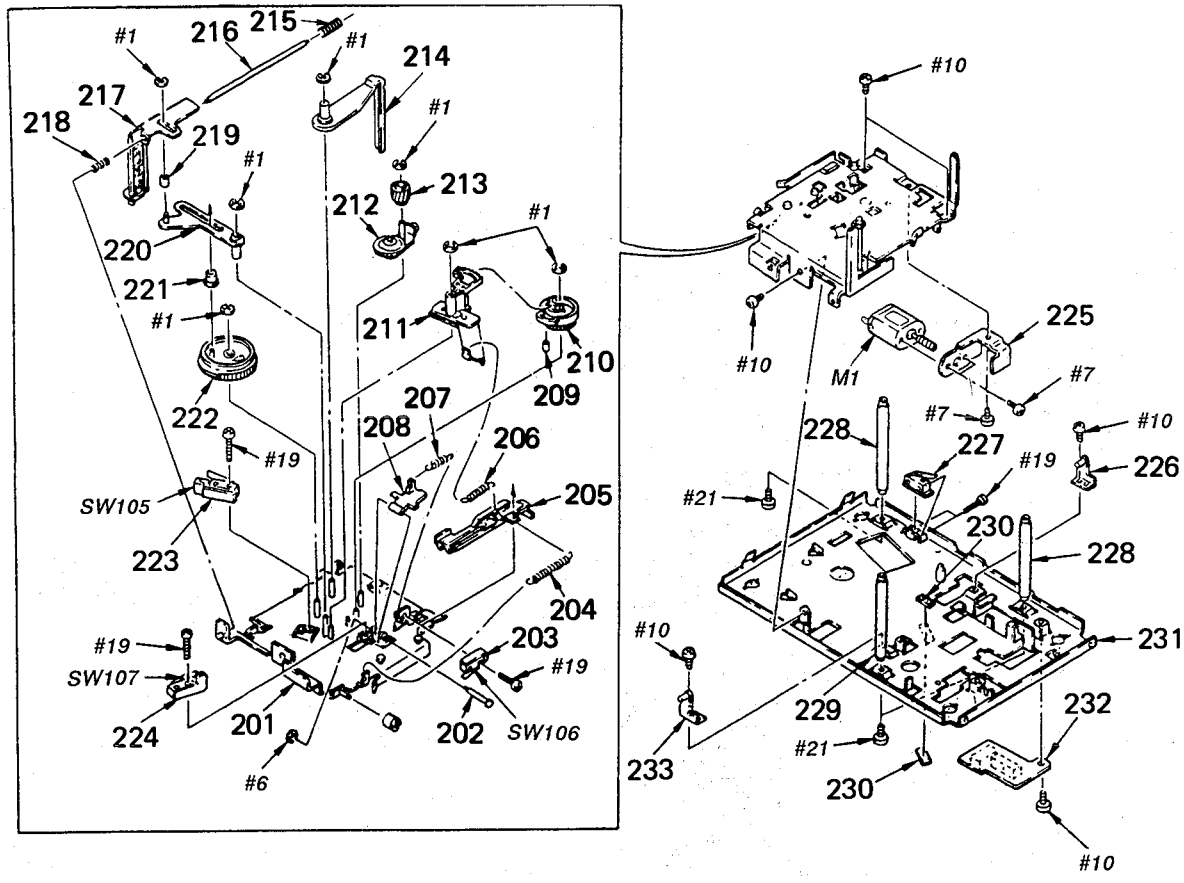
Ref. No.	Part No.	Description	Remark
101	* 3-333-092-01	BRACKET (S), PHOTO	
102	1-622-792-11	PC BOARD, DPT	
103	3-329-560-01	SCREW, M6	
104	* 3-329-570-01	PLATE, SCREW	
105	X-3329-554-1	SCREW ASSY, FEED	
106	* 1-638-787-11	M2 CONNECTION BOARD	
107	3-343-717-01	PLATE (M), CHUCK	
108	1-634-606-11	PC BOARD, FLEXIBLE	
109	3-343-718-01	BRACKET, DISK CHUCK	
110	3-535-369-XX	SPRING, TENSION	
111	3-571-823-00	SPRING, TENSION	
112	3-333-098-01	SHAFT, DISK CHUCK	
113	3-831-441-11	CUSHION	
114	3-343-701-01	GEAR (B)	
115	3-367-155-01	ROLLER (IDLE)	
116	3-367-154-01	GEAR (F2)	
117	* X-3329-565-1	CHASSIS ASSY, E	
118	X-3362-766-1	SLIDE ASSY, LEVER	
119	3-329-551-01	METAL (B), SHAFT	
120	3-329-558-01	BEARING, MAIN ROLLER	
121	* X-3329-522-1	LEVER ASSY, R	
122	3-329-555-11	GEAR (E), R	
123	3-329-553-01	SPRING, E	
124	3-321-813-11	WASHER, COTTER POLYETHYLENE	
125	X-3329-520-1	SHAFT (LOWER) ASSY, ROLLER	
126	3-323-231-02	ROLLER (LOWER)	
127	* 3-333-006-01	REINFORCEMENT	
128	8-729-110-21	TRANSISTOR PH102-L	
129	3-333-099-01	GEAR (A)	
130	1-622-794-11	PC BOARD, DOE	
M2	X-3329-560-1	MOTOR ASSY, M2	

(4) MD SECTION (3)



Ref. No.	Part No.	Description	Remark
151	3-547-665-11	SPRING, TENSION	
152	3-331-957-06	GUIDE, DISK	
153	3-310-958-00	WASHER (R)	
154	3-343-706-01	LINK, DISK	
155	* 3-331-925-01	BEARING, ROLLER STOPPER	
156	* X-3329-517-1	LEVER (F) ASSY, LINK	
157	3-323-231-02	ROLLER (LOWER)	
158	X-3329-518-1	ROLLER (UPPER) ASSY	
159	* 3-329-552-01	SHAFT, SIDE ROLLER	
160	* X-3329-516-1	LEVER (B) ASSY, LINK	
161	X-3329-561-1	SHAFT (UPPER) ASSY, ROLLER	
162	3-331-924-01	GEAR (G), ROLLER	
163	3-331-914-01	GEAR, ROLLER 3 STEP	

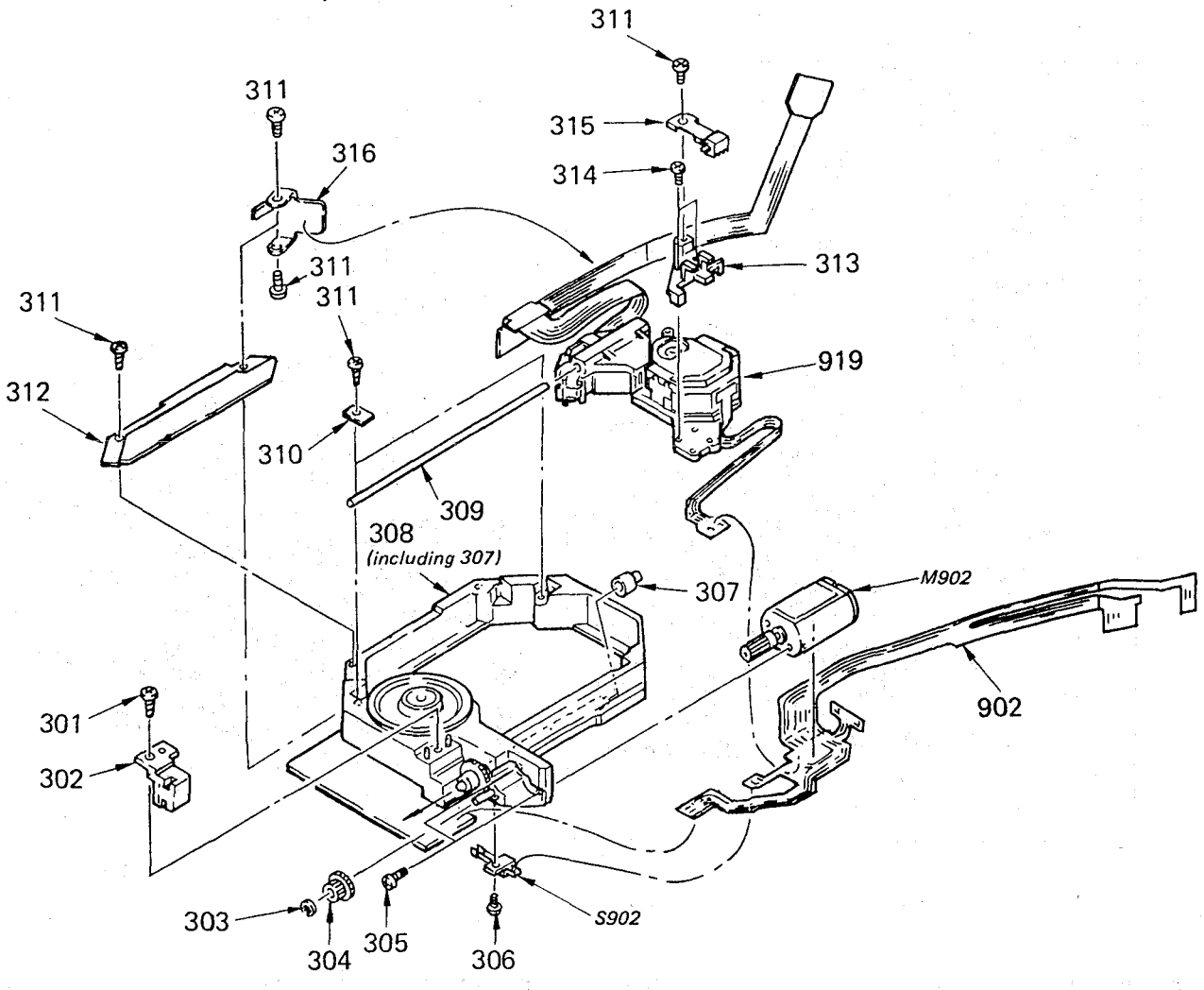
(5) MD SECTION (4)



Ref. No.	Part No.	Description	Remark
201	* X-3323-201-1	CHASSIS ASSY, PACK	
202	* 3-329-573-01	SHAFT, LOCK HOOK	
203	1-622-788-11	PST SW OARD	
204	3-634-191-XX	SPRING, TENSION	
205	* 3-331-913-01	EJECTOR (2), SOFT	
206	3-343-723-01	SPRING, TENSION	
207	3-535-369-XX	SPRING, TENSION	
208	3-333-087-01	HOOK, BACK LOCK	
209	3-329-580-01	ROLLER, CAM	
210	3-331-951-01	GEAR (2), EJECT CAM	
211	X-3329-511-1	LEVER ASSY, SOFT EJECT	
212	X-3329-557-1	GEAR ASSY	
213	3-333-088-01	WHEEL, WORM	
214	X-3362-767-1	SLIDER ASSY	
215	3-368-726-01	SPRING, COMPRESSION	
216	3-331-904-01	SHAFT, LINEAR SLIDER	
217	X-3329-558-1	SLIDER ASSY, LINEAR	
218	3-568-315-01	SPRING, COMPRESSION	
219	3-331-927-01	ROLLER, LINEAR LEVER	

Ref. No.	Part No.	Description	Remark
220	* X-3329-507-1	LEVER ASSY, LINEAR	
221	3-331-905-01	ROLLER (A)	
222	* X-3362-768-1	GEAR ASSY, CAM	
223	1-622-787-11	LOT SW BOARD	
224	1-622-789-11	EJECT SW BOARD	
225	* 3-343-715-01	PLATE, FIXED, MOTOR	
226	* X-3329-556-1	OPENER ASSY (B)	
227	1-634-583-13	HOME SW BOARD	
228	* 3-333-083-01	SHAFT (A), FIXED, E	
229	* 3-333-084-01	SHAFT (B), FIXED, E	
230	3-831-441-11	CUSHION	
231	* X-3329-568-1	CHASSIS ASSY, BOTTOM	
232	* 1-638-786-11	RELAY BOARD	
233	* X-3329-555-1	OPENER ASSY (A)	
M1	1-541-533-	MOTOR (FF-280SA-11350)	
SW105	1-570-504-11	SWITCH, MICRO (LOT)	
SW106	1-570-504-11	SWITCH, MICRO (PST)	
SW107	1-570-504-11	SWITCH, MICRO (EJECT)	

(6) OPTICAL DEVICE (KSM-132A)



No.	Part No.	Description	Remarks
301	7-685-203-19	SCREW +K 2X5 TYPE2 NON-SLIT	
302	X-2640-611-1	RETAINER ASSY, THRUST	
303	3-321-813-01	WASHER, COTTER POLYETHYLENE	
304	2-640-625-01	GEAR (B)	
305	7-627-554-17	PRECISION SCREW +P 2X3.5 TYPE 3	
306	2-640-620-03	SCREW (B) (1.4X3), TAPPING	
307	2-640-629-02	RETAINER (C), THRUST	
308	X-3320-567-1	CHASSIS ASSY, MD SLED	307
309	*2-640-632-01	SHAFT, GUIDE	
310	2-640-645-01	RETAINER, GUIDE SHAFT	

No.	Part No.	Description	Remarks
311	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT	
312	2-640-623-01	COVER, MD	
313	2-640-638-01	BEARING, FEED GUIDE	
314	7-627-852-17	+P 1.7X4	
315	2-640-622-01	NUT, FEED	
316	3-343-741-01	PLATE, GROUND	
919	⚠8-848-067-01	PICKUP, OPTICS KSS-160B	
920	1-621-406-11	PC BOARD, MOTOR FLEXIBLE	
M902	X-3320-568-1	MOTOR ASSY, SLED	
S902	1-554-938-11	SWITCH, LEAF (LIMIT)	

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

SECTION 8
ELECTRICAL PARTS LIST

D.O | DOE | EJECT | EJECT SW | EHS | HOME SW | LOT SW

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When including parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark
	* 1-638-790-11	D. O BOARD	
		*********	
CNP302	* 1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P	
		⟨ IC ⟩	
IC305	8-749-921-12	IC GP1F32T	
**********			
	* 1-622-794-11	DOE BOARD	
		*********	
		⟨ TRANSISTOR ⟩	
Q402	8-729-110-21	TRANSISTOR PH102-L	
**********			
	* 1-622-794-11	DPT BOARD	
		*********	
		⟨ TRANSISTOR ⟩	
Q401	8-729-110-21	TRANSISTOR PH102-L	
**********			
	1-622-796-11	EJECT BOARD	
		**********	
		⟨ CONNECTOR ⟩	
CNP411	* 1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P	
		⟨ SWITCH ⟩	
SW101	1-554-813-41	SWITCH, KEY BOARD (EJECT)	
**********			
	1-622-789-11	EJECT SW BOARD	
		**********	
		⟨ CONNECTOR ⟩	
CNP410	1-506-467-11	CONNECTOR 2P, MALE	
		⟨ SWITCH ⟩	
SW107	1-570-504-11	SWITCH, MICRO (EJECT)	
**********			
	1-162-793-11	EHS BOARD	
		*********	
		⟨ CONNECTOR ⟩	
CNP402	* 1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P	
		⟨ TRANSISTOR ⟩	
Q403	8-719-906-43	PHOTO INTERRUPTER	GP-1S03
**********			
	1-634-583-13	HOME SW BOARD	
		**********	
		⟨ SWITCH ⟩	
SW104	1-570-504-11	SWITCH, MICRO (HOME)	
**********			
	1-622-787-11	LOT SW BOARD	
		**********	
		⟨ CONNECTOR ⟩	
CNP408	1-506-481-11	CONNECTOR 2P, MALE	

LOT SW MAIN

Ref. No.	Part No.	Description			Remark
		⟨ SWITCH ⟩			
SW105	1-570-504-11	SWITCH, MICRO (LOT)			
**********					
	* A-3273-370-A	MAIN BOARD, COMPLETE			
		**********			
		⟨ CAPACITOR ⟩			
C102	1-163-053-00	CERAMIC CHIP	0.0033uF	10% 50V	
C103	1-124-584-00	ELECT	100uF	20% 10V	
C104	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C105	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C107	1-163-117-00	CERAMIC CHIP	0.1uF	10% 25V	
C109	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C110	1-163-121-00	CERAMIC CHIP	150PF	5% 50V	
C111	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C112	1-163-127-00	CERAMIC CHIP	270PF	5% 50V	
C113	1-126-023-11	ELECT	100uF	20% 16V	
C202	1-163-053-00	CERAMIC CHIP	0.0033uF	10% 50V	
C203	1-124-584-00	ELECT	100uF	20% 10V	
C204	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C205	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C209	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C210	1-163-121-00	CERAMIC CHIP	150PF	5% 50V	
C211	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C212	1-163-127-00	CERAMIC CHIP	270PF	5% 50V	
C213	1-126-023-11	ELECT	100uF	20% 16V	
C303	1-163-227-11	CERAMIC CHIP	10PF	5% 50V	
C304	1-135-180-21	TANTALUM CHIP	3.3uF	20% 6.3V	
C305	1-163-113-00	CERAMIC CHIP	68PF	5% 50V	
C307	1-163-227-11	CERAMIC CHIP	10PF	5% 50V	
C308	1-163-227-11	CERAMIC CHIP	10PF	5% 50V	
C310	1-124-584-00	ELECT	100uF	20% 10V	
C313	1-124-584-00	ELECT	100uF	20% 10V	
C314	1-126-103-11	ELECT	470uF	20% 10V	
C315	1-126-103-11	ELECT	470uF	20% 10V	
C316	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C318	1-124-119-00	ELECT	330uF	20% 16V	
C319	1-124-229-00	ELECT	33uF	20% 10V	
C320	1-126-157-11	ELECT	10uF	20% 16V	
C321	1-124-584-00	ELECT	100uF	20% 10V	
C322	1-124-584-00	ELECT	100uF	20% 10V	
C323	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C324	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C325	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C326	1-124-584-00	ELECT	100uF	20% 10V	
C327	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C328	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C329	1-124-584-00	ELECT	100uF	20% 10V	
C330	1-161-494-00	CERAMIC	0.022uF	25V	
C331	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C332	1-161-494-00	CERAMIC	0.022uF	25V	
C333	1-162-294-31	CERAMIC	0.01uF	10% 50V	
C501	1-124-584-00	ELECT	100uF	20% 10V	
C502	1-124-119-00	ELECT	330uF	20% 16V	
C503	1-124-119-00	ELECT	330uF	20% 16V	
C504	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C505	1-125-486-11	DUBLE LAYERS	0.22F	5.5V	
C506	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C507	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C508	1-124-584-00	ELECT	100uF	20% 10V	
C510	1-163-017-00	CERAMIC CHIP	0.0047uF	10% 50V	
C511	1-126-154-00	ELECT	47uF	20% 6.3V	
C513	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C516	1-124-755-00	ELECT	3300uF	20% 16V	
C701	1-163-063-00	CERAMIC CHIP	0.022uF	10% 50V	
C702	1-126-157-11	ELECT	10uF	20% 16V	
C703	1-124-229-00	ELECT	33uF	20% 10V	
C704	1-126-153-11	ELECT	22uF	20% 6.3V	
		⟨ CONNECTOR ⟩			
CN301	1-573-055-11	JACK, PIN 2P (LINE OUT)			
CN501	1-580-907-11	PLUG, CONNECTOR (UNI LINK)			
CNJ301	1-562-630-11	SOCKET, CONNECTOR 8P			
CNJ501 *	1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ502 *	1-562-990-11	SOCKET, CONNECTOR 14P			
CNP701 *	1-560-466-00	PIN, CONNECTOR 3P			
CNP702 *	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
		⟨ DIODE ⟩			
D102	8-719-400-18	DIODE MA152WK			
D202	8-719-400-18	DIODE MA152WK			
D301	8-719-400-18	DIODE MA152WK			
D304	8-719-109-92	DIODE RD6.2ESB1			
D501	8-719-120-75	DIODE RD6.2ES-L1			
D502	8-719-110-12	DIODE RD9.1ES-B1			
D503	8-719-110-35	DIODE RD13ES-B1			
D504	8-719-109-93	DIODE RD6.2ES-B2			
D505	8-719-109-93	DIODE RD6.2ES-B2			
D506	8-719-109-93	DIODE RD6.2ES-B2			
D507	8-719-911-19	DIODE 1SS119			
D508	8-719-109-92	DIODE RD6.2ESB1			
D509	8-719-109-92	DIODE RD6.2ESB1			
D510	8-719-981-50	DIODE RB100A			
D512	8-719-109-93	DIODE RD6.2ESB2			
D513	8-719-104-34	DIODE 1S2836			
D701	8-719-109-93	DIODE RD6.2ES-B2			
D702	8-719-104-34	DIODE 1S2836			
D703	8-719-910-62	DIODE HZ6A2L			

Ref. No.	Part No.	Description	Remark
D704	8-719-110-48	DIODE RD18ES-B1	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-109-92	DIODE RD6.2ESB1	
D707	8-719-304-70	DIODE PZ427	
D708	8-719-109-92	DIODE RD6.2ESB1	
		〈 DC-DC CONVERTER 〉	
DD1	1-466-518-11	CONVERTER UNIT, DC-DC	
		〈 FUSE 〉	
F701	1-532-745-11	FUSE, GLASS TUBE 3.15A	
		〈 IC 〉	
IC102	8-759-981-99	IC RM4560M	
IC202	8-759-981-99	IC RM4560M	
IC301	8-752-328-61	IC CXD1244S	
IC302	8-752-339-86	IC CXD2557M	
IC303	8-752-335-52	IC CXD2552Q-2	
IC304	8-759-804-69	IC LC74HC04M	
IC501	8-759-154-97	IC uPD75116GF-E25-3BE	
IC502	8-759-720-85	IC X24LC161	
IC503	8-759-940-45	IC S-8054HN-CB-S	
IC504	8-759-802-32	IC LB1649	
IC505	8-759-802-32	IC LB1649	
IC506	8-759-981-65	IC LM2903M	
IC702	8-759-982-05	IC RC7805FA	
		〈 JUMPER RESISTOR 〉	
JR301	1-216-295-00	METAL CHIP 0 5% 1/10W	
		〈 COIL 〉	
L302	1-410-198-51	INDUCTOR CHIP 3.3uH	
L303	1-410-198-51	INDUCTOR CHIP 3.3uH	
L304	1-410-198-51	INDUCTOR CHIP 3.3uH	
L306	1-410-198-51	INDUCTOR CHIP 3.3uH	
L307	1-410-198-51	INDUCTOR CHIP 3.3uH	
L308	1-410-198-51	INDUCTOR CHIP 3.3uH	
		〈 TRANSISTOR 〉	
Q102	8-729-901-05	TRANSISTOR DTA124EK	
Q103	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q202	8-729-901-05	TRANSISTOR DTA124EK	
Q203	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q301	8-729-901-00	TRANSISTOR DTC124EK	
Q302	8-729-901-05	TRANSISTOR DTA124EK	
Q303	8-729-901-00	TRANSISTOR DTC124EK	
Q304	8-729-901-00	TRANSISTOR DTC124EK	
Q305	8-729-901-05	TRANSISTOR DTA124EK	
Q502	8-729-230-49	TRANSISTOR 2SC2712Y-G	
Q503	8-729-901-05	TRANSISTOR DTA124EK	
Q504	8-729-901-00	TRANSISTOR DTC124EK	
Q505	8-729-901-05	TRANSISTOR DTA124EK	
Q506	8-729-901-00	TRANSISTOR DTC124EK	
Q507	8-729-901-05	TRANSISTOR DTA124EK	
Q508	8-729-901-00	TRANSISTOR DTC124EK	
Q510	8-729-230-49	TRANSISTOR 2SC2712Y-G	
Q513	8-729-230-49	TRANSISTOR 2SC2712Y-G	
Q515	8-729-901-05	TRANSISTOR DTA124EK	
Q532	8-729-901-01	TRANSISTOR DTC144EK	
Q534	8-729-230-49	TRANSISTOR 2SC2712Y-G	
Q701	8-729-922-46	TRANSISTOR 2SB1184F5-Q	
Q702	8-729-921-48	TRANSISTOR 2SD1760F5-Q	
Q703	8-729-901-00	TRANSISTOR DTC124EK	
Q705	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q706	8-729-901-01	TRANSISTOR DTC144EK	
Q710	8-729-901-00	TRANSISTOR DTC124EK	
Q711	8-729-805-20	TRANSISTOR 2SB1202-S	
		〈 RESISTOR 〉	
R102	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R103	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R106	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R107	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R110	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
R111	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
R112	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R113	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
R114	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
R115	1-216-653-11	METAL CHIP 1.2K 0.5% 1/10W	
R116	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R117	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R118	1-216-025-00	METAL CHIP 100 5% 1/10W	
R119	1-216-001-00	METAL CHIP 10 5% 1/10W	
R120	1-216-748-11	METAL CHIP 39K 5% 1/10W	
R202	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R203	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R206	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R207	1-216-675-11	METAL CHIP 10K 0.5% 1/10W	
R210	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
R211	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
R212	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R213	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
R214	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
R215	1-216-653-11	METAL CHIP 1.2K 0.5% 1/10W	
R216	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R217	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R218	1-216-025-00	METAL CHIP 100 5% 1/10W	
R219	1-216-001-00	METAL CHIP 10 5% 1/10W	
R220	1-216-748-11	METAL CHIP 39K 5% 1/10W	

MAIN | M2 CONNECTION | O.P | PST SW

Ref.No.	Part No.	Description			Remark
R301	1-249-381-11	CARBON	1	5%	1/4W
R302	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R303	1-216-041-00	METAL CHIP	470	5%	1/10W
R304	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R307	1-216-121-00	METAL CHIP	1M	5%	1/10W
R308	1-216-041-00	METAL CHIP	470	5%	1/10W
R309	1-216-043-00	METAL CHIP	560	5%	1/10W
R310	1-216-041-00	METAL CHIP	470	5%	1/10W
R311	1-216-041-00	METAL CHIP	470	5%	1/10W
R312	1-216-041-00	METAL CHIP	470	5%	1/10W
R313	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R314	1-249-385-11	METAL CHIP	2.2	5%	1/4W
R315	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R316	1-216-059-00	METAL CHIP	2.2K	5%	1/10W
R318	1-260-095-00	CARBON	470	5%	1/2W
R319	1-216-073-00	METAL CHIP	10K	5%	1/10W
R340	1-216-142-00	METAL CHIP	4.7K	5%	1/8W
R501	1-216-089-00	METAL CHIP	47K	5%	1/10W
R502	1-216-089-00	METAL CHIP	47K	5%	1/10W
R504	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R505	1-216-089-00	METAL CHIP	47K	5%	1/10W
R506	1-216-089-00	METAL CHIP	47K	5%	1/10W
R507	1-216-089-00	METAL CHIP	47K	5%	1/10W
R508	1-216-089-00	METAL CHIP	47K	5%	1/10W
R510	1-216-089-00	METAL CHIP	47K	5%	1/10W
R511	1-216-081-00	METAL CHIP	22K	5%	1/10W
R512	1-216-081-00	METAL CHIP	22K	5%	1/10W
R513	1-216-105-00	METAL CHIP	220K	5%	1/10W
R514	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R516	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R517	1-216-089-00	METAL CHIP	47K	5%	1/10W
R518	1-216-105-00	METAL CHIP	220K	5%	1/10W
R519	1-216-089-00	METAL CHIP	47K	5%	1/10W
R520	1-216-089-00	METAL CHIP	47K	5%	1/10W
R521	1-216-089-00	METAL CHIP	47K	5%	1/10W
R522	1-216-089-00	METAL CHIP	47K	5%	1/10W
R523	1-216-089-00	METAL CHIP	47K	5%	1/10W
R524	1-216-089-00	METAL CHIP	47K	5%	1/10W
R525	1-216-089-00	METAL CHIP	47K	5%	1/10W
R526	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R527	1-216-073-00	METAL CHIP	10K	5%	1/10W
R530	1-216-089-00	METAL CHIP	47K	5%	1/10W
R531	1-216-089-00	METAL CHIP	47K	5%	1/10W
R533	1-216-105-00	METAL CHIP	220K	5%	1/10W
R534	1-216-081-00	METAL CHIP	22K	5%	1/10W
R535	1-216-095-00	METAL CHIP	82K	5%	1/10W
R541	1-249-389-11	CARBON	4.7	5%	1/4W
R701	1-216-049-00	METAL CHIP	1K	5%	1/10W
R702	1-216-041-00	METAL CHIP	470	5%	1/10W
R703	1-260-064-11	CARBON	1	5%	1/4W
R704	1-216-049-00	METAL CHIP	1K	5%	1/10W
R705	1-216-049-00	METAL CHIP	1K	5%	1/10W
R706	1-216-049-00	METAL CHIP	1K	5%	1/10W
R707	1-216-089-00	METAL CHIP	47K	5%	1/10W
R708	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
		⟨ RELAY ⟩			
RY1	1-515-614-11	RELAY			
		⟨ SWITCH ⟩			
S301	1-570-867-11	SWITCH, SLIDE (ANALOG/DIGITAL)			
		⟨ VIBRATOR ⟩			
X1	1-577-686-11	VIBRATOR, CRYSTAL 45MHz			
X2	1-577-685-11	FILTER, CRYSTAL 16.9344MHz			
X501	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz			
**********					
*	1-638-787-11	M2 CONNECTION BOARD			
		**********			
		⟨ DIODE ⟩			
D401	8-719-812-31	DIODE TLR123			
D402	8-719-812-31	DIODE TLR123			
		⟨ RESISTRO ⟩			
R401	1-216-182-00	METAL GLAZE	220	5%	1/8W
R402	1-216-182-00	METAL GLAZE	220	5%	1/8W
**********					
*	1-638-788-11	O.P BOARD			
		*********			
		⟨ CONNECTOR ⟩			
CNP303 *	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
		⟨ DIODE ⟩			
D406	8-719-987-27	DIODE GL4PG8			
**********					
	1-622-788-11	PST SW OARD			
		**********			
		⟨ CONNECTOR ⟩			
CNP409	1-506-467-11	CONNECTOR	2P, MALE		
		⟨ SWITCH ⟩			
SW106	1-570-504-11	SWITCH, MICRO (PST)			
**********					

RELAY **SERVO**

Ref.No.	Part No.	Description			Remark
	* 1-638-786-11	RELAY BOARD			
		**********			
		〈 CONNECTOR 〉			
CNJ401	* 1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ402	1-562-719-11	SOCKET, CONNECTOR 10P			
CNP401	* 1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP402	* 1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP403	* 1-506-984-31	PIN, CONNECTOR (PC BOARD) 2P			
CNP404	* 1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP405	* 1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP406	* 1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
		〈 JUMPER RESISTOR 〉			
JR401	1-216-295-00	METAL CHIP	0	5%	1/10W
JR403	1-216-296-00	METAL CHIP	0	5%	1/8W
JR404	1-216-295-00	METAL CHIP	0	5%	1/10W
JR405	1-216-295-00	METAL CHIP	0	5%	1/10W
JR406	1-216-295-00	METAL CHIP	0	5%	1/10W
JR407	1-216-296-00	METAL CHIP	0	5%	1/8W
		〈 RESISTOR 〉			
R403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R405	1-216-033-00	METAL CHIP	220	5%	1/10W
**********					
	* A-3273-371-A	SERVO BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C1	1-163-062-00	CERAMIC CHIP	0.018uF	10%	50V
C2	1-163-074-00	CERAMIC CHIP	0.033uF		50V
C3	1-126-177-11	ELECT	100uF	20%	10V
C4	1-163-034-00	CERAMIC CHIP	0.033uF		50V
C5	1-126-154-11	ELECT	47uF	20%	6.3V
C6	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C7	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C8	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C9	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C10	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C11	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C12	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C13	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C14	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C15	1-126-929-11	ELECT	4700uF	20%	10V
C16	1-126-929-11	ELECT	4700uF	20%	10V
C17	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C18	1-126-162-11	ELECT	3.3uF	20%	50V
C19	1-163-076-00	CERAMIC CHIP	0.068uF		50V
C20	1-163-076-00	CERAMIC CHIP	0.068uF		50V
C21	1-126-177-11	ELECT	100uF	20%	10V
C22	1-163-075-00	CERAMIC CHIP	0.047uF		50V
C23	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C24	1-127-558-11	ELECT(SOLID)	10uF	20%	10V
C25	1-127-558-11	ELECT(SOLID)	10uF	20%	10V
C26	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C27	1-126-162-11	ELECT	3.3uF	20%	50V
C28	1-124-442-00	ELECT	330uF	20%	6.3V
C29	1-124-465-00	ELECT	0.47uF	20%	50V
C30	1-124-442-00	ELECT	330uF	20%	6.3V
C31	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C32	1-126-154-11	ELECT	47uF	20%	6.3V
C33	1-163-034-00	CERAMIC CHIP	0.033uF		50V
C34	1-162-294-31	CERAMIC	0.001uF	10%	50V
		〈 CONNECTOR 〉			
CN1	1-562-631-11	SOCKET, CONNECTOR 4P			
CN2	1-562-630-11	SOCKET, CONNECTOR 8P			
CN3	* 1-562-990-11	SOCKET, CONNECTOR 14P			
CN4	1-562-630-11	SOCKET, CONNECTOR 8P			
CN5	* 1-566-776-11	SOCKET, CONNECTOR 12P			
CNP1	* 1-560-459-00	PIN, CONNECTOR 3P			
CNP2	* 1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
		〈 IC 〉			
IC1	8-752-033-14	IC CXA1081Q			
IC2	8-752-037-48	IC CXA1182Q-Z			
IC3	8-759-940-89	IC L272M			
IC4	8-752-335-15	IC CXD2500Q			
		〈 JUMPER RESISTOR 〉			
JR1	1-216-296-00	METAL CHIP	0	5%	1/8W
JR2	1-216-295-00	METAL CHIP	0	5%	1/10W
JR3	1-216-295-00	METAL CHIP	0	5%	1/10W
JR4	1-216-295-00	METAL CHIP	0	5%	1/10W
JR5	1-216-296-00	METAL CHIP	0	5%	1/8W
JR6	1-216-296-00	METAL CHIP	0	5%	1/8W
JR7	1-216-295-00	METAL CHIP	0	5%	1/10W
JR8	1-216-296-00	METAL CHIP	0	5%	1/8W
JR9	1-216-295-00	METAL CHIP	0	5%	1/10W
JR10	1-216-296-00	METAL CHIP	0	5%	1/8W
JR11	1-216-296-00	METAL CHIP	0	5%	1/8W
JR12	1-216-296-00	METAL CHIP	0	5%	1/8W
JR13	1-216-295-00	METAL CHIP	0	5%	1/10W
JR14	1-216-296-00	METAL CHIP	0	5%	1/8W
JR15	1-216-296-00	METAL CHIP	0	5%	1/8W
JR16	1-216-295-00	METAL CHIP	0	5%	1/10W
JR18	1-216-295-00	METAL CHIP	0	5%	1/10W
JR19	1-216-295-00	METAL CHIP	0	5%	1/10W
JR20	1-216-296-00	METAL CHIP	0	5%	1/8W
JR21	1-216-296-00	METAL CHIP	0	5%	1/8W

SERVO

Ref. No.	Part No.	Description			Remark
JR22	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR24	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR25	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR26	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR27	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR28	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR29	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR30	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR31	1-216-296-00	METAL CHIP	0	5% 1/8W	
		〈 COIL 〉			
L1	1-410-501-11	INDUCTOR	2.2uH		
L2	1-410-501-11	INDUCTOR	2.2uH		
L3	1-410-501-11	INDUCTOR	2.2uH		
		〈 TRANSISTOR 〉			
Q1	8-729-804-41	TRANSISTOR 2SB1122-S			
Q2	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q3	8-729-804-41	TRANSISTOR 2SB1122-S			
Q4	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q5	8-729-804-41	TRANSISTOR 2SB1122-S			
		〈 RESISTOR 〉			
R1	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R2	1-216-024-00	METAL GLAZE	91	5% 1/10W	
R3	1-216-151-00	METAL GLAZE	11	5% 1/8W	
R4	1-216-151-00	METAL GLAZE	11	5% 1/8W	
R5	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	
R6	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R7	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R8	1-249-387-11	CARBON	3.3	5% 1/4W	
R9	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R10	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R11	1-216-091-00	METAL CHIP	56K	5% 1/10W	
R12	1-216-246-00	METAL GLAZE	100K	5% 1/8W	
R13	1-216-258-00	METAL GLAZE	330K	5% 1/8W	
R14	1-216-089-00	METAL CHIP	47K	5% 1/10W	
R15	1-216-082-00	METAL GLAZE	24K	5% 1/10W	
R16	1-249-387-11	CARBON	3.3	5% 1/4W	
R17	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R18	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R19	1-216-099-00	METAL CHIP	120K	5% 1/10W	
R20	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R21	1-216-071-00	METAL CHIP	8.2K	5% 1/10W	
R22	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R23	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R24	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R26	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R27	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R28	1-216-041-00	METAL CHIP	470	5% 1/10W	
R29	1-216-041-00	METAL CHIP	470	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R31	1-216-041-00	METAL CHIP	470	5% 1/10W	
R32	1-216-041-00	METAL CHIP	470	5% 1/10W	
R34	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R35	1-216-041-00	METAL CHIP	470	5% 1/10W	
R36	1-216-099-00	METAL CHIP	120K	5% 1/10W	
R37	1-216-114-00	METAL GLAZE	510K	5% 1/10W	
		〈 VARIABLE RESISTOR 〉			
RV1	1-238-017-11	RES, ADJ, CARBON 22K			
RV2	1-238-019-11	RES, ADJ, CARBON 47K			
RV3	1-238-017-11	RES, ADJ, CARBON 22K			
RV4	1-238-017-11	RES, ADJ, CARBON 22K			
		〈 THERMISTOR 〉			
TH1	1-808-656-11	THERMISTOR			
TH2	1-808-656-11	THERMISTOR			

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ACCESSORIES & PACKING MATERIALS

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	3-368-671-01	INDIVIDUAL CARTON
	3-753-135-21	MANUAL, INSTRUCTION (ENGLISH/FRENCH) (US/CND)
	3-753-135-11	MANUAL INSTRUCTION (ENGLISH/GERMAN/CHINESE) (AEP)
	3-753-135-41	MANUAL INSTRUCTION (FRENCH/PORTUGUESE/ DUTCH/SWEDISH/ITALIAN) (AEP/G)
	⚠8-848-067-01	PICKUP, OPTICS KSS-160B
	1-621-406-11	PC BOARD, MOTOR FLEXIBLE
26	* 3-367-974-01	LABEL, MODEL NUMBER (US/AEP)
501	3-359-010-11	BRACKET (ACCESSORY)
502	X-3329-574-1	BRACKET ASSY
503	X-3329-570-1	SCREW ASSY
505	7-688-005-01	W 5, SMALL
M902	X-3320-568-1	MOTOR ASSY, SLED
S902	1-554-938-11	SWITCH, LEAF (LIMIT)

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HARDWARE LIST

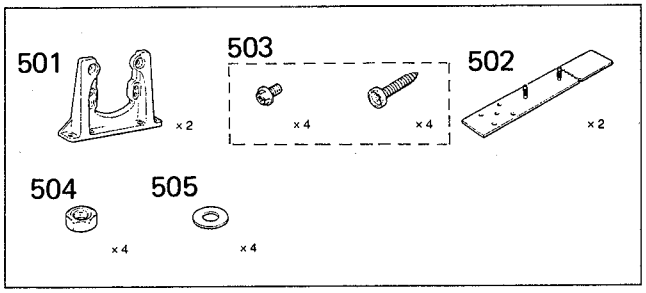
#1	7-624-104-04	STOP RING 2.0, TYPE -E
#2	7-682-548-09	SCREW +P 3X8
#3	7-682-546-03	SCREW +B 3X5
#4	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#5	7-685-547-	SCREW +BTP 3X10 TYPE1
#6	7-624-102-04	STOP RING 1.5, TYPE -E
#7	7-621-775-00	SCREW +P 2.6X3
#8	7-682-544-04	SCREW +P 3X3
#9	7-621-255-10	SCREW +P 2X3
#10	7-621-775-20	SCREW +B 2.6X5

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
#11	7-621-255-25	SCREW +BVTT 2X4 (S)	
#12	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
#13	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#14	7-624-118-01	RING, RETAINING E-2.5	
#15	7-685-103-14	SCREW +P2X6	
#16	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#17	7-621-770-67	SCREW +B 2.6X6	
#18	7-621-772-40	SCREW +B 2X8	
#19	7-621-255-65	+BVTT 2X10 (S)	
#20	7-628-253-90	SCREW +PS 2.6X4	
#21	7-682-546-09	SCREW +B 3X5	

• MOUNTING HARDWARE



501	3-359-010-11	BRACKET (ACCESSORY)
502	X-3363-314-1	BRACKET ASSY
503	X-3329-570-1	SCREW ASSY
504	7-684-025-04	N5, TYPE 2
505	7-688-005-01	W 5, SMALL